



國立中山大學生物科學系研究所碩士論文

台灣蟻蛛屬蜘蛛分類研究

Taxonomic study of *Myrmarachne* (Araneae: Salticidae) from Taiwan



研究生：黃俊男 撰

指導教授：張學文 博士

中華民國 九十三年 七月

致謝

還記得剛考上研究所時，原本對於植物興趣濃厚的我，意外成了張學文老師的學生，開始了我對蟻蛛的研究。大四那年，因為卓逸民老師的啟蒙，開始接觸蜘蛛的知識，卻也意外的開啟了我一扇窗口。研究所四年的時間，實在不短，最首要感謝的當然是指導教授張學文老師，感謝張老師在各方面的全力支持及照顧，還有在研究上的細心指導。卓老師的啟蒙以及在研究上給予的意見，是我繼續蟻蛛研究的一大助力；中興大學楊正澤老師在口試的指導，以及論文修改方面提供的寶貴意見，讓我的論文得以順利完成。在此致上最深的謝意。

特別感謝李政諦學長在標本和文獻的提供，並在我的研究上提供十分寶貴的意見，讓我原本深陷泥沼的思緒，得以大有長進。在冗長而乏味的分類研究過程中，要不是有許多人的幫忙，我一個人絕對無法完成，感謝建興、昭君、志堅、小浩、宜慧、啟瑞、尚穎以及大詮等，我們曾一同去野外採集，讓我採集時不會感到孤寂；感謝永浩以及宗岐學長提供珍貴的標本；感謝所有實驗室的眾伙伴：朝聖、秀敏、金坤、勝發、Honda、貞志、訓誠、曉婷、啟斌、小利、忠應、瑾子、佩宜、美珠、尹程、立晴和銘宏等，會在適當的時候給予關懷和打氣，因為有你們，這四年來我過得很開心；感激楊老師實驗室的秋容學姐從大學到現在的照顧與關懷，且給予寶貴的意見；感謝俊奎學長在我分類繪圖給予的指導。生活上感謝有孫鳳蘭師母、雅慧姐和寶蓮姐的提點及關懷，讓我不致於無所適從。對於其他曾給予協助，但因篇幅而無法逐一提及的朋友們，以及因實驗而犧牲的蟻蛛們，僅此致上我的最深謝意，沒有你們一切將變的毫無意義。

感謝湘玲在這一段時間的支持、包容和關懷，以及芳姬的體貼，讓我能夠持續堅持下去。最後，我要感謝一直默默支持及栽培我的父母及家人，還能讓我在我喜愛的領域裡，毫無顧慮的進行研究，僅以本篇論文獻給我最愛的家人。

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中文摘要

依據 Platnick (2004)的分類系統，目前記錄的台灣產蟻蛛屬 *Myrmarachne* 蜘蛛共有 11 種，其中包含 4 種新種，分別為：細長蟻蛛 *M. exilisata* sp. nov.、蘭嶼蟻蛛 *M. lanyuensis* sp. nov.、黃肢蟻蛛 *M. luteopalpis* sp. nov.以及寬胸蟻蛛 *M. laticorseleta* sp. nov.；3 種新紀錄種：條蟻蛛 *M. annamita* Zabka., 1985、艾氏蟻蛛 *M. edwardsi* Berry, Beatty and Proszynski, 1996 以及摺腹蟻蛛 *M. kiboschensis* Lessert, 1925。過去發表的 4 種台灣產蟻蛛：台灣蟻蛛 *Myrmarachne formosana* (Saito, 1933)、擬台灣蟻蛛 *Myrmarachne formosicola* Strand, 1910、黑色蟻蛛 *Myrmarachne inermichelis* Bösenberg and Strand, 1906 以及大蟻蛛 *Myrmarachne magna* (Saito, 1933)在本實驗亦有紀錄，並給予更詳細的型態描述。其中台灣蟻蛛以及擬台灣蟻蛛的雌蛛為首次描述。此外，將 *Pyroderes formosanus* Matsumura, 1911 處理為疑問種。本實驗亦提供 11 種台灣產蟻蛛的分類檢索表、形態描述及描繪、數值特徵、採集地及分佈圖。

Abstract

Based on the taxonomic system of Platnick in 2004, a total of 11 species of *Myrmarachne* are recognized from Taiwan. There are 4 species described as new species: *M. exilisata* sp. nov., *M. lanyuensis* sp. nov., *M. luteopalpis* sp. nov., and *M. laticorseleta* sp. nov., and 3 new records to Taiwan: *M. annamita* Zabka., 1985, *M. edwardsi* Berry, Beatty and Proszynski, 1996 and *M. kiboschensis* Lessert, 1925. And the species published in the past from Taiwan are recovered and redescribed in this study, namely, *Myrmarachne formosana* (Saito, 1933), *Myrmarachne formosicola* Strand, 1910 and *Myrmarachne inermichelis* Bösenberg and Strand, 1906 and *Myrmarachne magna* (Saito, 1933), and female of *Myrmarachne formosana* (Saito, 1933) and *Myrmarachne formosicola* Strand, 1910 are described and illustrated first time. Type specimen of *M. formosicola* Strand, 1910 was re-examined. We treat *Pyroderes formosanus* Matsumura, 1911 as a doubtful species. A taxonomic key of *Myrmarachne* from Taiwan, diagnoses, descriptions, quantitative character values, illustrations, locality records, and distribution maps are presented for the 11 recognized species.

Introduction

Myrmecomorphs were defined as arthropods that mimic ants morphologically and/or behaviorally (Cushing 1997). Ant-mimicry is a widespread phenomenon among many different arthropod orders. Komárek (1998) gave a detailed list of mimetic models, in which ants represent 80% of all spider models, while among 9 spider families have been recorded as possessing myrmecomorphy (McIver and Stonedahl 1993, Oliveira 1988). The probable function of myrmecomorphy in spiders was considered as batesian mimicry (McIver and Stonedahl 1993). The most well known examples of myrmecomorphy of spiders are in the families Corinnidae and Salticidae (Oliveira 1988, Wesolowska and Szűs 2001). *Myrmarachne* is one of the most studied ant-like genera in the Salticidae, which was first described by Macleay (1839). It is one of the most abundant genera among this family, containing 206 nominal species world-wide at present (Prószyński 2003). Myrmecomorphy of this genus are shown the remarkable similarity not only in morphology but also in behaviour (Jackson 1986, Jackson and Willey 1994). The other interesting character of *Myrmarachne* is sexual dimorphism, the adult males having enormous elongate chelicerae that are used both in courtship and in male-male fighting. This character of male detracts the similarity from mimicking of ants and also decreases the prey capturing and handling ability and restrain more of the diet than females do (Jackson and Willey 1994).

Strand (1910) reported the first occurrence of *Myrmarachne*, namely *M. formosicola* Strand, 1910, from Taiwan. Matsumura (1911) reported an ant-like jumping spider, namely *Pyroderes formosanus* Matsumura (1911). Chu and Okuma (1975) assigned *Pyroderes formosanus* Matsumura (1911) to *M. formosana*

(Matsumura, 1911). Saito (1933) reported 43 species from Taiwan, with four ant-like jumping spiders, including 1 new species, namely *M. magnus* Saito, 1933 (syn. *M. magna* (Saito, 1933)), and 2 new recorded species, *M. japonica* (Karsch, 1879) and *M. inermichelis* Bösenberg & Strand, 1906. Another ant-like jumping spider of genus *Simonella* Peckham & Peckham, 1885 also described from his article, namely *Simonella formosana* Saito, 1933. However, Galiano (1966), based the original description and illustration, assigned *Simonella* Peckham & Peckham, 1885 to the genus *Synemosyna* Hentz, 1846 and he proposed the assignment of *S. formosana* Saito, 1933 to the genus *Myrmarachne*, namely, *M. formosana* (Saito, 1933). However, we don't know is the *M. formosana* Matsumura, 1911 synonymy to the *M. formosana* (Saito 1933), it need more feature study. After Saito (1933), many spiders of Taiwan had been found and described or revised, but the recorded species of *Myrmarachne* genus remained unchanged (Lee 1964, Chu and Okuma 1976). Hu (1984) added *M. formosicola* Strand, 1910 and *M. sansiborica* Strand, 1910 to the list of Taiwanese *Myrmarachne*, but without taxonomic description and revision. However, *M. sansiborica* Strand, 1910 may be miscited by Hu (1984), because the type locality is Zanzibar, and Wanless (1978) assigned this species as a nomina dubia species. Recently, Chen (1996) listed 6 species of *Myrmarachne* occurred from Taiwan, namely, *M. formosana* (Saito, 1933), *M. formosicola* Strand, 1910, *M. inermichelris* Bösenberg & Strand, 1906, *M. japonica* (Karsch, 1879), *M. magnus* Saito, 1933 (syn. *M. magna* (Saito, 1933)) and *M. sansiborica* Strand, 1910. Most of the Taiwanese *Myrmarachne* were studied in the 19th century (Chen 1996), and no more study was carried on after Saito (1933) and Lee (1964). *Myrmarachne* presents well known difficulties for any taxonomist because of it is a large genus and many species have similar morphology, especially of its particularly uniform palpal organs (Prószyński 1992). Previous articles from Taiwan were inadequate for taxonomic study because of

no type specimens designated and the description of characters and illustrations were ineffective for distinguishing species. The general information of taxonomy, diversity and ecology of *Myrmarachne* are still very poorly known in Taiwan. Therefore, recollecting Taiwanese *Myrmarachne* species and revision of the genus are urgently needed. The objectives of this study are to revise and to obtain information of distribution and diversity of Taiwanese *Myrmarachne*, based upon specimens collected from Taiwan and the off-shore islands. The detailed description and illustration of the body and genital organs were given in this study. A key for species of the genus from Taiwan is also provided.

Materials and Methods

Collection

More than 350 specimens were collected from 1999 to 2004. The collecting sites of *Myrmarachne* are presented in fig. 19. The materials are deposited at the Department of Biological Sciences of National Sun Yat-Sen University (NSYSUB), Kaohsiung, Taiwan, ROC.

Myrmarachne spiders do not build web and capture small insects by freely hunt (Jackson 1986, Jackson and Willy 1994). They are often found on leaves, as well as on trees, shrubs and grasses or artificial building, such as rail and wall. The material used in this paper have collected from those habitates by hand sorting, sweeping and beating. The spiders used for this study were preserved in 75% ethyl alcohol.

Methods

Spiders were examined under Leica MZ-16 stereomicroscope in a Petri dish with steeping condition, the bottom of which was covered with fine sand for steadying specimen while examination. All the measurement and description of specimen followed Edmunds and Proszynski (2003) with some modifications. The description of eyes, clypeus, maxillae and labium are excluded, because these characters are very similar among the species (Edmunds and Proszynski 2003). All measurement characters are photographed by a Nikon CP-995 digital camera, then measured by ImageJ 1.32j, a free scientific measurement soft (<http://rsb.info.nih.gov/ij/>). Male left chelicerae is carefully separated and illustrated. Male left pedipalp is separated between trochanter and femur, and illustrated in dorsal, dorsolateral and lateral views. After female epigynum is illustrated and examined, female genital region is carefully separated from opisthosoma and prepared in 10 % KOH solution at room temperature for about 48-72 hr, until all soft tissues were dissolved. The internal

structures will be more distinct after preparation. Internal structures of epigynum also illustrated. The separation part of spiders were conserved itself in small translucent plastic tube (10×3 mm) which both sides stuffed with cotton and preserved together with its specimen. Ocular micrometer accurate to 0.01 mm is used for measured. Each species was measured at least 6 individuals as possible. The data will be presented in mean, standard deviation, range and coefficient of variation of each species, the ratio of body length, carapace width, carapace high and leg length to carapace length was given.

The morphological characters used for the *Myrmarachne* taxonomy in the study are as follows (Fig. 1-3):

Body: the colour and pattern are described; body length are measured excluding the chelicerae and spinnerets (Fig. 2A); illustrated in dorsal and lateral view.

Carapace: the colour and pattern are described; illustrated in dorsal and lateral view; carapace length, width and height are measured (Fig. 2A-E).

Chelicerae: the colour and pattern are described; the pattern of teeth on promargin and retromargin, and fang are described; chelicerae length is measured (Fig. 2B); illustrated in prolateral or ventral view.

Sternum: the colour and pattern are described, sternum is illustrated with coxa segment of legs, and the rim of carapace; length and max. width were presented are measured.

Pedichel: length of anterior and posterior segments were compared.

Abdomen: the shape, colour and pattern are described, abdomen length and width are measured (Fig. 1A).

Leg: the colour pattern and the number of spines on segments are described; length of all segments are measured, except for coxa and trochanter (Fig. 2C).

Male padipalp (Fig. 3A-B): the colour and pattern are described; length of all segment are measured, except for coxa and trochanter; illustrated in dorsal, ventral and prolateral view.

Taxonomic Accounts

Genus *Myrmarachne* Macleay, 1839

Myrmarachne Macleay 1839, 2: 1-14.

Myrmarachne Prószyński 1971, 25: 227-233.

Myrmarachne Wanless 1978, 33: 18-30.

Myrmarachne Zabka 1985, 35: 242-243.

Myrmarachne Prószyński 2001, 51: 517-518.

Myrmarachne Edmunds and Prószyński 2003, 12: 297-323.

Description Always ant-like shape and also with ant-like behaviour; male with sexually dimorphic. **Carapace**- varied, usually long and narrow, with constriction between head and thorax both dorsally and laterally; constriction area usually with stripe or band of white setae laterally. **Chelicerae**- with numerous teeth on retrolateral ventral margin, usually well developed and elongated in male; fang sinuous or straight, with or without apophysis and/or keel. **Sternum**- varied, usually elongated and thin. **Pedicel**- narrow and elongate, covering with two sclerites dorsally separating into two parts. **Abdomen**- varied, usually with constriction dorsally and laterally, usually with stripe of white setae laterally. **Legs**- slender, formula usually 4132, with ventral spines on metatarsus and tibia of leg I and leg II, sometimes with ventral spines on patella I. **Male pedipalp**- with round or oval tegulum, seminal reservoir channel around the edge or on the middle part of tegulum; embolus coiling around tegulum usually 2 times; tibia apophysis short, usually with flange and ending with a hook. **Female epigyne**- with two opening windows separating by middle septum, spermathecae simple, looped or twisted, separating from proximal seminal ducts not

distinctly, distal seminal ducts usually invisible, broad and obscurely convoluted, rarely spiraled.

About 206 nominal species world-wide, at present study there were 11 species occurrence in Taiwan.

Key to species of *Myrmarachne* from Taiwan

Males

- 1a. Flange of tibia apophysis well developed.....2
- 1b. Flange of tibia apophysis lacking or poorly developing.....8
- 2a. Chelicerae poorly developed and shorter than half of carapace length.....3
- 2b. Chelicerae well developed and longer than half of carapace length.....4
- 3a. Seminal receptacle channel broad and running along rim of
bulbus.....*M. laticorseleta*
- 3b. Seminal receptacle channel free on the middle of bulbus.....*M. edwardsi*
- 4a. Carapace constricted not distinct.....*M. annamita*
- 4b. Carapace constricted distinct.....5
- 5a. Fang curved and with one apophysis and with several keels distal to
it.....*M. formosicola*
- 5b. Fang almost straight without apophysis.....6
- 6a. Cybium without disto-bristle.....*M. formosana*
- 6b. Cybium with stout disto-bristle.....7
- 7a. Promarginal teeth and retromarginal teeth combined into one row at half of its
length.....*M. inermichelis*
- 7b. Promarginal teeth and retromarginal separated into two rows.....*M. exilisata*
- 8a. Inner margin of chelicerae with two prolateral spurs.....*M. magna*
- 8b. Inner margin of chelicerae not as above.....9

- 9a. Chelicerae constricted at one third of its length.....*M. lanyuensis*
- 9b. Chelicerae without constricting.....10
- 10a. Fang crooked at one third of its length.....*M. luteopalpis*
- 10b. Fang almost straight*M. kiboschensis*

Females

- 1a. Spermathecal looped and form coil(s).....2
- 1b. Spermathecal without looped.....3
- 2a. Body colour uniform, shiny blackish.....*M. formosana*
- 2b. Body colour varied, thorax paler than head and anterior part paler than posterior of
abdomen, yellow brownish.....*M. formosicola*
- 3a. Abdomen oval-sharp, covered with dense grayish hairs.....*M. magna*
- 3b. Abdomen pear-sharp, hairless.....*M. laticorseleta*

Myrmarachne annamita Zabka, 1985 條蟻蛛

(figs. 4)

Myrmarachne annamita Zabka, 1985: 243. f. 306-313 (m, f)

Myrmarachne annamita Peng et al., 1993: 130. f. 430-439 (m, f)

Myrmarachne annamita Song et al., 1999: 535. f. 303O-P, 304G-H, 327K (m, f)

Materials examined 1 male, Tunghai University (東海大學), Situn District, Taichung City, 9 June, 2000, collected by J. N. Huang., NSYSU-AR-000186; 1 male, Tianliao (田寮) Nanjhuang, Miaoli County, 19 July, 2002, collected by J. N. Huang., NSYSU-AR-00188.

Measurements (in millimeters) of male (n=2) <i>M. annamita</i> .					
Characters	mean	sd.	min.	max.	CV (%)
Body length	4.37	0.47	4.04	4.70	11
carapace length	1.87	0.26	1.68	2.05	14
carapace width	0.89	0.12	0.80	0.97	14
chelicerae length	1.16	0.37	0.89	1.42	32
sternum length	1.11	0.20	0.97	1.25	18
sternum max. width	0.34	0.01	0.33	0.35	4
leg I femur	1.03	0.12	0.94	1.11	12
leg I patella	0.39	0.06	0.35	0.43	15
leg I tibia	0.89	0.05	0.85	0.92	6
leg I metatarsus	0.48	0.01	0.47	0.49	3
leg I tarsus	0.34	0.01	0.33	0.34	2
leg I	3.12	0.25	2.94	3.29	8
leg II	2.33	0.39	2.05	2.60	17
leg III	2.29	0.23	2.13	2.45	10
leg IV	3.42	0.47	3.09	3.75	14
pedipalp	0.93	0.09	0.86	0.99	10

Description **Male:** **Carapace-** dark brown, shiny, area around eyes black; covering with sparse erected fine grey hairs dorsally; thorax slightly narrower than head, with slightly constriction dorsally; without lateral notch, head and thorax in equal height. **Chelicerae-** shorter than carapace, reddish brown; 7-9 promarginal teeth, distributing unevenly and decreasing in size toward tip and base; 5-8 retromarginal teeth, much smaller than promarginal teeth, equal in size, with a gap between first one and the others, distributing unevenly; fang slender, with several fine keels on inner margin; reddish brown, yellow at tip. **Sternum-** brown, elongate, round at tip, point at rear. **Pedichel-** not distinctly, segments equal in length. **Abdomen-** grey to yellowish brown; elongate, without constriction; ventral yellowish brown. **Spinnerets-** dark brown, not distinctly. **Legs-** leg I entirely yellow, trochanter I, femur I, tibia I and metatarsus I with one brownish stripe on inner and outer sides, tarsus I with one basal brown spot on inner and outer sides; tibia I with 3-4 pairs spines and 2 pairs on metatarsus I; leg II entirely yellow; tibia II with 2 spines, and 2 pairs on metatarsus II; leg III entirely yellow; leg IV entirely yellow; femur IV with one brownish stripe on inner and outer sides, inner one longer than outer; tibia IV with one brownish stripe on inner and outer sides, outer one paler than inner; metatarsus IV with one brownish stripe on inner side; **Pedipalp-** brown, tibia apophysis thin and twisted, with distal hook, flange well developed; loops of embolus forming two circles; seminal receptacle C-form right-up open.

Distribution Vietnam, Taiwan. (Fig. 20)

Myrmarachne edwardsi Berry, Beatty and Proszynski, 1996 艾氏蟻蛛

(Fig. 5)

Myrmarachne edwardsi Berry, Beatty and Prószyński. 1996: 241. f. 97-102 (m, f).

Material examined 1 male, Tunghai University (東海大學), Situn District,
Taichung City, 30 May, 2002, collected by J. N. Huang., NSYSU-AR-00028.

Measurements (in millimeters) of male (n=1) <i>M. edwardsi</i> .					
Characters	mean	sd.	min.	max.	CV (%)
Body length	3.14	-	-	-	-
carapace length	1.87	-	-	-	-
carapace width	0.89	-	-	-	-
chelicerae length	1.16	-	-	-	-
sternum length	1.11	-	-	-	-
sternum max. width	0.34	-	-	-	-
leg I femur	1.03	-	-	-	-
leg I patella	0.39	-	-	-	-
leg I tibia	0.89	-	-	-	-
leg I metatarsus	0.48	-	-	-	-
leg I tarsus	0.34	-	-	-	-
leg I	3.12	-	-	-	-
leg II	2.33	-	-	-	-
leg III	2.29	-	-	-	-
leg IV	3.42	-	-	-	-
pedipalp	0.93	-	-	-	-

Description **Male: Carapace-** orange, area around eyes black; thorax slightly narrower than head, with slightly constriction dorsally, head higher than thorax, separated by a shallow step. **Chelicerae-** brown, shorter than half length of carapace, bulging on one-third of its length, with indentation at distal inner margin; 5 promarginal teeth, the third one largest, distributing evenly and decreasing in size

toward base; 4 small retromarginal teeth, distributing evenly; fang slender, inner margin with one broad triangle apophysis at one third of its length, and with several fine corrugations distal to it; reddish brown, yellow at tip. **Sternum**- yellow, broad, round at tip, point at rear. **Pedicel**- distinctly, segments equal in length. **Abdomen**- orange, reddish brown at rear, decorated with 1 to 2 transverse yellowish stripes posteriorly; long oval-sharp, anterior slightly bulging; ventral yellow. **Spinnerets**- brown, not distinctly. **Legs**- coxa I and trochanter I yellow; femur I yellow, with one distal brownish stripe on outer side and one basal brownish stripe on inner side; patella I and tibia I yellow; metatarsus I yellow, with one brownish stripe on inner and outer sides; tarsus I yellow; tibia I with 3 pairs spines, and 2 pairs on metatarsus I; leg II lost; coxa III and trochanter III yellow, trochanter III with one brownish stripe on outer side; femur III yellow, with one brownish stripe on outer side; patella III yellow, with one distal brownish spot on outer side; leg IV entirely yellow, with one brown stripe from coxa IV to femur IV on outer side; patella IV with one distal brownish spot on upper side; tibia IV with one brownish stripe on outer side. **Pedipalp**- yellow, brown at tip, tibia shorter than cymbium; cymbium with 2 disto-bristles; tibia apophysis slightly twisted, with well developed flange; loops of embolus forming two circles; seminal receptacle related thinning, U-form right-up open.

Distribution Palau, Taiwan. (Fig. 21)

Myrmarachne exilisata sp. nov. 細長蟻蛛

(Fig. 6)

Holotype 1 male, Shihgang Reservoir (石岡大壩), Shihgang, Taichung county, 23 May, 2001, collected by J. D. Lee., NSYSU-AR-00198.

Paratypes 1 male, Jhihshanyan (芝山巖), Shihlin District, Taipei city, 15 August, 2002, collected by J. N. Huang., NSYSU-AR-00025; 1 male, Guantian (官田), Guantian, Tainan county, 6 July, 2003, collected by J. L. Lin., NSYSU-AR-00197.

Etymology The species is named is derived from its slender body and chelicerae, “*exilis*” is a Latin word, meaning slender.

Diagnosis This new species similar to *M. markaha* Barrion and Litsinger, 1995, but can be distinguished from the latter by: 1. head slightly higher than thorax, and separated by a shallow step, but head higher than thorax and separated by a steep step in latter; 2. the chelicerae with 2 almost adjacent distal teeth, but latter just have 1 distal tooth; 3. the pedicel is short and not distinct, but slender and distinct in the latter; 4. sternum straight at tip, but blunt triangle in the latter; 4.pedicel not distinctly in the new species but slender and distinctly in the latter.

Measurements (in millimeters) of male (n=2) <i>M. exilisata</i> .					
Characters	mean	sd.	min.	max.	CV (%)
Body length	5.03	0.22	4.87	5.18	4
carapace length	2.19	0.10	2.12	2.26	5
carapace width	1.02	0.04	0.99	1.05	4
chelicerae length	2.51	0.29	2.30	2.71	12
sternum length	1.21	0.07	1.16	1.26	6
sternum max. width	0.36	0.01	0.35	0.36	2
leg I femur	1.23	0.03	1.21	1.25	2
leg I patella	0.52	0.05	0.48	0.55	10
leg I tibia	1.13	0.04	1.10	1.16	4
leg I metatarsus	0.68	0.06	0.63	0.72	9
leg I tarsus	0.40	0.01	0.39	0.40	2
leg I	3.95	0.19	3.81	4.08	5
leg II	2.84	0.28	2.64	3.04	10
leg III	2.74	0.33	2.51	2.97	12
leg IV	3.44	0.35	3.19	3.69	10
pedipalp	1.44	0.19	1.30	1.57	13

Description Male: Carapace- reddish brown, area around eyes black, with sparse white setae and fine hairs on head; thorax narrower than head, constriction between head and thorax widely; head higher than thorax, separated by a shallow step.

Chelicerae - reddish brown, slender, straight and parallel, longer than carapace; 5-6 promarginal teeth, distal 2 adjacent teeth and last one separated from the others by a gap, decreasing in size toward base; 6-8 very small retromarginal teeth, distributing closer toward to the base; fang slender, inner margin with numerous fine corrugations; reddish brown, yellow at tip. **Sternum-** slender, round at tip, point at rear, yellow.

Pedichel- not distinctly, first segment longer than the second one. **Abdomen-** elongate, with constriction at one third of its length; anterior of abdomen slightly bulging; reddish brown, with 1 stripe of white setae on the constriction region, ventral yellowish brown. **Spinnerets-** not distinctly, dark brown. **Legs-** coxa I and trochanter I yellow; femur I yellow, light yellowish brown at tip; patella I and tibia I light

yellowish brown; metatarsus I yellowish brown; tarsus I dark brown, yellow at tip; patella I with 1 spine on outer side, 3 pairs on tibia I, and 2 pairs on metatarsus I; leg II and leg III entirely yellow, coxa III, trochanter and femur III paler; coxa IV and trochanter IV yellow, coxa IV with 1 brownish stripe on inner and outer sides; femur IV yellowish brown; patella IV yellow with 1 distal brownish spot on outer side; tibia IV, metatarsus IV and tarsus IV yellowish brown. **Pedipalp** - dark brown; cymbium with 1 stout distal bristle; tibia apophysis twisted, with well developed flange; loops of embolus forming two circles; seminal receptacle C-form right-up open.

Distribution Taiwan. (Fig. 22).

Myrmarachne formosana (Saito, 1933) 台灣蟻蛛

(Fig. 7, 8)

Simonella formosana Saito. 1933: 40. pl. 3, f. 5a-e (m).

Myrmarachne formosana Galiano. 1966: 378

Materials examined 1 male, Rueisuei forest trail (瑞穗林道), Rueisuei, Hualien County, 11 July, 2003, collected by J. N. Huang., NSYSU-AR-00059; 1 female, Yoshanlun forest trail (油杉崙林道), Sinyi, Nantou County, 23 July, 2003, collected by J. N. Huang., NSYSU-AR-00207; 1 female, Sihji forest trail (四季林道), Datung, Yilan County, 14 July, 2003, collected by J. N. Huang., NSYSU-AR-00248; 3 males, Jinping forest trail (錦屏林道), Haiduan, Taidung County, 4 April, 2003, collected by J. N. Huang., NSYSU-AR-00086, NSYSU-AR-00065, NSYSU-AR-00244; 4 males, Yungan agricultural path 永安產業道路, Yanping, Taidung County, 21 April, 2003, collected by J. N. Huang., NSYSU-AR00066, NSYSU-AR-00068, NSYSU-AR-00073, NSYSU-AR-00087; 1 male, Sihji forest trail (四季林道), Datong, Yilan County, 8 August, 2002, collected by J. N. Huang., NSYSU-AR-00004; 2 males, Rueisuei forest trail (瑞穗林道), Rueisuei, Hualien County, 11 July, 2003, collected by J. N. Huang., NSYSU-AR-00055, NSYSU-AR-00089; 1 male, Neilaiji (內來吉), Alishan, Chiayi County, 25 July, 2003, collected by J. N. Huang., NSYSU-AR-00062; 1 male, Jinping trail (錦屏林道), Haiduan, Taidung County, 11 July, 2003, collected by J. N. Huang., NSYSU-AR-00084; 1 male, Hongshih (紅石), Haiduan, Taidung County, 22 April, 2003, collected by J. N. Huang., NSYSU-AR-00069.

Measurements (in millimeters) of male (n=11) and female (n=5) *M. formosana*.

Characters	mean		sd.		min.		max.		CV (%)	
	male	female	male	female	male	female	male	female	male	female
Body length	4.43	5.30	0.48	0.49	3.81	4.64	5.41	5.74	11	9
carapace length	1.95	2.17	0.16	0.12	1.76	2.02	2.19	2.28	8	6
carapace width	0.98	1.01	0.48	0.06	0.89	0.94	1.09	1.06	7	6
chelicerae length	1.98	-	0.33	-	1.46	-	2.49	-	17	-
sternum length	1.13	1.27	0.11	0.10	0.99	1.16	1.30	1.37	9	8
sternum max. width	0.35	0.33	0.03	0.02	0.31	0.30	0.41	0.36	8	7
leg I femur	1.05	1.00	0.11	0.09	0.92	0.89	1.24	1.07	10	9
leg I patella	0.41	0.41	0.04	0.01	0.35	0.39	0.47	0.42	11	3
leg I tibia	0.97	0.88	0.11	0.07	0.85	0.79	1.18	0.95	11	8
leg I metatarsus	0.52	0.52	0.07	0.04	0.44	0.48	0.63	0.59	13	8
leg I tarsus	0.36	0.33	0.02	0.01	0.33	0.32	0.38	0.35	7	3
leg I	3.31	3.14	0.34	0.19	2.82	2.92	3.90	3.29	10	6
leg II	2.51	2.54	0.26	0.23	2.07	2.30	2.92	2.82	11	9
leg III	2.63	2.89	0.26	0.22	2.29	2.55	3.13	3.14	10	8
leg IV	3.76	4.30	0.37	0.33	3.23	3.89	4.33	4.66	10	8
pedipalp	1.18	-	0.13	-	0.99	-	1.43	-	11	-

Description Male: Carapace- blackish brown, shiny, area around eyes black; thorax narrower than head, with distinctly constriction between head and thorax; head higher than thorax, with deep notch between head and thorax laterally; with a triangular band of dense white setae above base of leg II laterally. **Chelicerae-** reddish brown, elongate, slightly shorter than carapace; 9-13 promarginal teeth, with a gap between distal 2 adjacent teeth and the others, the second distal teeth much smaller than the first one, the others distributing evenly and decreasing in size toward base; 3-7 retromarginal teeth, smaller than promarginal teeth, distributing unevenly and slightly increasing in size toward base; fang slender, waviness, inner margin lacking keel and apophysis; brown, yellow at tip. **Sternum-** round or straight at tip, taper at rear, yellowish brown. **Pedichel-** distinctly, segments equal in length. **Abdomen-** pear-sharp, with distinctly constriction at one third of its length; anterior

bulging; with notable lateral notch at constriction region; blackish brown, shiny, grey at constriction region, with two notable stripes of white setae at constriction region laterally, upper one smaller than the under; ventral brown. **Spinnerets**- not distinctly, dark brown. **Legs**- coxa I and trochanter I yellow; femur I brown, inner side paler than the outer; patella I yellow, with one brown stripe on inner side; tibia I yellow, with one brownish stripe on inner and outer sides; metatarsus I and tarsus I brown; patella I with 1 spine, 3 pairs on tibia I, and 2 pairs on metatarsus I; leg II entirely yellow, femur II with one brownish stripe on inner side; tibia II with 2 pairs spines, and 2 pairs on metatarsus II; coxa III and trochanter III brown, darker on upper and lateral sides; femur III dark brown; patella III and tibia III yellow, with one dark brownish stripe on outer side; metatarsus III and tarsus III yellow; coxa IV and trochanter IV yellow; femur IV dark brown; patella IV yellow, with one distal dark brownish spot on upper side; tibia IV brown with one dark brownish stripe on inner and outer sides; tibia IV dark brown; metatarsus IV and tarsus IV yellow, metatarsus IV with one dark brownish stripe on inner and outer sides. **Pedipalp**- related broad lateral; tibia apophysis twisted, with distal hook; flange well developed; loops of embolus forming two circles; seminal receptacle C-form right-up open.

Female: Carapace- reddish brown to blackish brown, shiny, head dorsal surface darker; thorax narrower than head, with deep and broad constriction between head and thorax; head slightly higher than thorax, with deep lateral notch between head and thorax; with a notable triangle band of white setae at constriction region laterally. **Chelicerae**- bright brown to reddish brown; **Sternum**- slender and thin, round or straight at tip, taper at rear, yellowish brown to brown. **Pedicel**- slender, segments equal in length. **Abdomen**- long oval-sharp, with constriction at one third of its length; anterior bulging; with notable lateral notch; blackish brown; with two notable stripes of white setae at constriction region laterally, upper one smaller than the under;

ventral yellowish brown, with one white band behind the epigastric fold. **Spinnerets**- distinctly, dark brown. **Legs**- coxa I and trochanter I yellow; femur I yellow, with one brownish stripe on outer side, and one basal brownish spot on inner side; patella I yellow, with one brownish stripe on inner and outer sides, outer one paler; tibia I yellow, with one brownish stripe on inner side; metatarsus I and tarsus I yellow, with one brownish stripe on inner side and one brownish basal stripe on outer side; patella I with 1 spine on outer side, 3 pairs on tibia I, and 2 pairs on metatarsus I; leg II entirely yellow, femur II with one distal brownish spot on inner side; tibia II with 2 pairs spines, and 2 pairs on metatarsus II; coxa III and trochanter III dark brown; femur III dark brown, yellow at basal and distal; patella III and tibia III yellow, with one dark brownish stripe on outer side; metatarsus III and tarsus III yellow; coxa IV and trochanter IV yellow, coxa IV with one dark brownish stripe on outer side, and trochanter IV with one basal dark brownish spot on inner side; femur IV dark brown; patella IV yellow, with one distal dark brownish spot on upper side; tibia IV dark brown; metatarsus IV and tarsus IV yellow, metatarsus IV with one dark brownish stripe on inner and outer sides. **Pedipalp**- entirely reddish brown. **Egigynum**- with two separated small round membranous “window”, spermathecae loop into three coils.

Remarks The first recorded of Taiwanese ant-like jumping spider is *Pyroderes formosanus* Matsumura, 1911, which was assigned to *M. fomosana* Matsumura, 1911 by Chu and Okuma (1975), but this assignation without taxonomic description and revision. Matsumura (1911) didn't designate the type specimen and the original description and illustration are too rough to distinguish. Based on its diagnosis, *P. formosanus* is similar to *P. formicarius* (sym. *M. formicaria* (De Geer, 1778)), the characters of *M. formicaria* (De Geer, 1778) are differed from *M. fomosana* (Saito,

1933). We can not confirm this species belong to which, but we consider this species is not *M. formosana* Saito (1933). Therefore we treated *P. formosanus* as doubtful species here. Saito (1933) published a new species from Taiwan, namely: *Simonella formosana* Saito, 1933, Galiano (1966) assigned *Simonella* to the genus *Synemosyna* Hentz, 1846 and he proposed the assignment of *S. formosana* to the genus *Myrmarachne*. Saito did not designate the type specimen, so the assignment of Galiano (1966) was based on the illustration. We agree his idea. Saito may misidentify a female or a subadult individual as a male. In our study a very common slender black species we described here were similar to *M. formosana* especially in female. This species with very distinctly constricted of carapace and abdomen, and with very slender pedicel, the body drawing in lateral view of *M. formosana* are quite similar to our describing species. In addition, the type locality of *M. formosana* is Taipei, and we have collected several specimens from Taipei and adjacent area. Therefore, we confirmed our studying species is *M. formosana*. This species resembles to *M. inermichelis* Bösenberg and Strand, 1906, but can be distinguished from the latter by the number of marginal teeth, abdomen sharp and detail of the sternum, chelicerae and pedipalp. The differences between these two species are listed in table 5.

Distribution Taiwan (Fig. 23)

Myrmarachne formosicola Strand, 1910 擬台灣蟻蛛

(Fig. 9, 10)

Myrmarachne formosicola Strand, 1910: 14 (m).

Materials examined 1 male, **HOLOTYPE**, Kaohsiung City (高雄市), collected by E. Strand., ZMB 18874; 1 male, Shuanglianbi (雙連埤), Yuanshan, Yilan County, 2 July, 2002, collected by Y. H. Chang., NSYSU-AR-00104; 1 female, Tunghai University (東海大學), Situn District, Taichung City, 14 October, 2000, collected by J. N. Huang., NSYSU-AR-00005; 1 male, Dakeng (大坑), Beitun District, Taichung City, 18 July, 2002, collected by J. N. Huang., NSYSU-AR-00094; 1 male, Liciou (壠坵), Taimali, Taitung County, 17 April, 2003, collected by J. N. Huang., NSYSU-AR-00100; 2 males, Tunghai University (東海大學), Situn District, Taichung City, 11 June, 2000, collected by J. N. Huang., NSYSU-AR-00097; 15 December, 2000, collected by J. N. Huang., NSYSU-AR-00009; 1 male, Dayu (大禹村), Yuli, Hualien County, 6 July, 2003, collected by J. N. Huang., NSYSU-AR-00102; National Sun Yat-Sen University (中山大學), Gushan District, Kaohsiung City, 3 January, 2003, collected by J. N. Huang., NSYSU-AR-00211.

Measurements (in millimeters) of male (n=9) and female (n=3) *M. formosicola*.

Characters	mean		sd.		min.		max.		CV (%)	
	male	female	male	female	male	female	male	female	male	female
Body length	5.79	5.19	0.86	0.40	4.50	4.73	7.33	5.42	12	8
carapace length	2.49	2.40	0.27	0.03	2.02	2.37	2.91	2.43	9	1
carapace width	1.18	1.12	0.07	0.04	1.06	1.08	1.27	1.15	6	3
chelicerae length	2.04	-	0.36	-	1.62	-	2.55	-	16	-
sternum length	1.44	1.42	0.17	0.03	1.14	1.40	1.75	1.45	9	2
sternum max. width	0.39	0.35	0.02	0.02	0.36	0.34	0.43	0.37	4	4
leg I femur	1.39	1.09	0.15	0.07	1.18	1.01	1.60	1.15	10	7
leg I patella	0.54	0.46	0.07	0.05	0.42	0.40	0.63	0.49	11	11
leg I tibia	1.38	1.01	0.19	0.03	1.10	0.98	1.60	1.03	13	3
leg I metatarsus	0.77	0.58	0.10	0.03	0.63	0.54	0.92	0.60	13	6
leg I tarsus	0.45	0.38	0.05	0.01	0.40	0.37	0.53	0.39	11	3
leg I	4.52	3.51	0.54	0.19	3.73	3.30	5.17	3.63	11	5
leg II	3.42	2.94	0.45	0.10	2.71	2.83	3.89	3.03	13	3
leg III	3.83	3.38	0.45	0.06	3.11	3.31	4.33	3.43	12	2
leg IV	5.41	5.03	0.61	0.06	4.51	4.99	6.19	5.09	11	1
pedipalp	1.66	-	0.16	-	1.45	-	1.86	-	9	-

Description Male: Carapace- dark reddish brown on head and light brown on thorax; upper surface with fine appressed forward-pointing white hairs, sparser on thorax and rim; thorax narrower than head, with distinctly constriction between head and thorax, a narrow groove dorsolaterally just between head and thorax; head higher than thorax, with depressed lateral notch; a conspicuous triangle of dense white hairs laterally ending just above base of leg II. **Chelicerae-** Shorter than carapace, reddish brown; 7-14 promarginal teeth, with 2 adjacent distal teeth, first one pointing-forward, second one larger than first one; others evenly distributing and decreasing in size toward base; 8-12 retromarginal teeth, smaller than promarginal teeth, evenly distributing and equal in size; fang slightly sinuous, inner margin with 1 apophysis at one third of its length and with 4-8 keels distal to it; reddish brown, yellowish at tip. **Sternum-** slender, round at tip, tapering at rear, brown. **Pedicel-** elongate, segments

equal in size. **Abdomen**- longer than carapace, long oval-shaped; with slightly constriction at one third of its length, anterior slightly bulging; orange brown to reddish brown, dark brown at rear, usually with 2 broad light brownish stripes near the rear dorsally; with 1 band of white setae behind the constriction area laterally; ventral brown. **Spinnerets**- distinctly, reddish brown to dark brown. **Legs**- coxa I and trochanter I brown; femur I brown, yellow on under side; patella I and tibia I yellow, with 1 brownish stripe on inner and outer sides; metatarsus I brown; tarsus I brown, yellow at tip; patella I with 1 spine on outer side, 4- 5 pairs on tibia I, and 2 pairs on metatarsus; leg II entirely yellow, femur II with 1 brownish stripe on inner and outer sides, outer paler; patella II and tibia II with 1 fine stripe on outer side; tibia II with 2-3 pairs of spines, 2 pairs on metatarsus II; coxa III, trochanter III and femur III brown; patella III yellow, with 1 brownish spot on upper side distally; tibia III yellow, with 1 dark stripe on outer side; metatarsus III and tarsus III yellow; coxa IV and trochanter IV yellow, with 1 brownish stripe on inner and outer sides; femur IV brown; patella IV yellow, with 1 dark spot on upper side distal; tibia IV and metatarsus IV brownish; tarsus IV yellowish. **Pedipalp**- elongate; tibia related long; cymbium with one distal seta; tibia apophysis twisted, with distal hook; flange well developed; loops of embolus forming two circles; seminal receptacle S-form.

Female: **Carapace**- dark reddish brownish on head and orange on thorax; thorax narrower than head, with distinctly constriction between head and thorax; head higher than thorax, with depressed and wide notch laterally; a conspicuous long triangle of dense white hairs laterally ending just above base of leg II. **Chelicerae**- reddish brown to dark brown. **Sternum**- slender and thin, round at tip, tapering at rear, reddish brown to brown. **Pedichel**- elongate, segments equal in size. **Abdomen**- longer than carapace, long oval-shape; with slightly constriction at one third of its length, anterior slightly bulging; yellowish brown and dark brown at rear, with 2 broad

transverse yellowish stripes at rear; with 1 band of white setae behind the constriction area laterally; ventral brown. **Spinnerets**- distinctly, reddish brown to dark brown. **Legs**- coxa I and trochanter I yellow; femur I yellowish brown on under and inner sides; patella I, tibia I and metatarsus I yellow, with 1 brownish stripe on inner and outer sides; tarsus I yellow; patella I with 1 spine on outer side, 4- 5 pairs on tibia I, and 2 pairs on metatarsus; leg II entirely yellow, femur II, patella II and tibia II with 1 brownish stripe on inner side; tibia II with 2-3 pairs of spines, 2 pairs on metatarsus II; coxa III, trochanter III and femur III brown; patella III yellow, upper side distal with 1 brownish spot; tibia III yellow, with 1 dark stripe on outer side; metatarsus III and tarsus III yellow; coxa IV and trochanter IV yellow, with 1 brownish stripe on inner and outer sides; femur IV reddish brown; patella IV yellow, upper side distal with 1 dark spot; tibia IV brownish yellow on upper and under sides; metatarsus IV and tarsus IV yellow with one brownish stripe on outer side. **Pedipalp**- reddish brown, yellow to tip. **Egipynum**- with two separated small round membranous “window”, spermathecae loop two coil and cross once time.

Variation The coloration will change and be more paler when preserved. The species with remarkable variation in coloration and pigmentation, varying from orange to dark brownish. Not only the coloration and pigmentation varying, this species also varying in covered with or without hairs, sternum sharp and the ratio of body segments length ration of carapace length, but the characters of pedipalp and epigyne are very stable. We considered that all specimens are belong to one species.

Remarks We examined the type specimen of *M. formosicola* Strand ,1910 which borrowed from the Zoologisches Museum, Humboldt-Universität. There were 1 adult male and 1 adult female contained in Strand’s collection. The male is type specimen

of *M. formosicola* Strand, 1910, but the female is not couple with male, it belonging to the other species: *M. annamita* Zabka, 1985. The species are common in Taiwan. And we also collected some specimens from type locality. *M. formosicola* Strand, 1910 is very similar to *M. gisti* Fox, 1937, but only differs in: male cymbium with disto-bristle but latter lacking; female spermathecae of egipynum looped into 2 coil and cross once time, the latter looped but not coiled. This two species may be very close related, unfortunately, we can not get the type specimens of *M. gisti* Fox, 1937, so we can not sure if they are conspecific, it need more feature study. But we confirmed these two species are different based on the differ of male and female we mentioned above.

Distribution China, Vietnam, and Taiwan. (Fig. 24)

Myrmarachne inermichelis Bösenberg and Strand, 1906 黑色蟻蛛

(Fig. 11)

Myrmarachne inermichelis Bösenberg & Strand, 1906: 329, pl. 9, f. 128, pl. 14, f. 382 (m).

Myrmarachne inermichelis Strand, 1918: 100 (f).

Myrmarachne inermichelis. Saito, 1933: 39, pl. 3, f. 7,a-b. (m, f)

Myrmarachne innermichelis Uyemura, 1952: 5, f. 3, B (m).

Myrmarachne innermichelis Lee, 1964: 76. f. 29, a-b (m,f)

Myrmarachne inermichelis Oliger, 1984: 126, f. 3 (m).

Myrmarachne inermichelis Yaginuma, 1986a: 242, f. 134, 2 (m, f).

Myrmarachne inermichelis Bohdanowicz & Prószyński, 1987: 96, f. 160-166 (m, f).

Myrmarachne innermichelis Chikuni, 1989b: 160, f. 64 (m, f).

Myrmarachne innermichelis Cho & Kim, 2002: 110, f. 40, 141-142, 249-250 (m, f).

Myrmarachne innermichelis Namkung, 2002: 607, f. 43. 51,a-b (m, f).

Materials examined 1 male, Daniao 大鳥, Dawu, Taidung County, 14 April, 2003, collected by J. N. Huang., NSYSU-AR-00254; 3 males, Lijia forest trail (利嘉林道), Beinan, Taidung county, 20 April, 2004, collected by J. N. Huang., NSYSU-AR-00255; NSYSU-AR-00256; NSYSU-AR-00257.

Measurements (in millimeters) of male (n=6) *M. inermichelis*.

Characters	mean	sd.	min.	max.	CV (%)
Body length	4.94	0.73	4.20	6.12	15
carapace length	2.21	0.26	1.94	2.66	12
carapace width	0.99	0.09	0.91	1.14	9
chelicerae length	2.13	0.44	1.68	2.83	21
sternum length	1.30	0.12	1.18	1.48	9
sternum max. width	0.38	0.03	0.34	0.39	8
leg I femur	1.27	0.17	1.10	1.52	13
leg I patella	0.45	0.04	0.41	0.52	10
leg I tibia	1.16	0.15	0.99	1.39	13
leg I metatarsus	0.62	0.06	0.56	0.68	9
leg I tarsus	0.39	0.05	0.33	0.45	12
leg I	3.88	0.46	3.40	4.56	12
leg II	2.85	0.36	2.46	3.43	13
leg III	3.02	0.41	2.62	3.71	14
leg IV	4.15	0.42	3.67	4.82	10
pedipalp	1.41	0.11	1.28	1.59	8

Description Male: Carapace- shiny dark reddish brown to black, area around eyes darker; upper surface with fine appressed forward-point white hairs, sparser to thorax and rim; thorax narrower than head, constriction between head and thorax distinctly; with a narrow groove dorsolaterally just between head and thorax; head higher than thorax, separated by a shallow notch; with conspicuous triangle band of dense white hairs laterally ending just above base of leg II; head slightly higher than thorax, separated by a lateral notch. **Chelicerae-** longer than carapace, reddish brown; 14 promarginal teeth, distal 2 separated to others by a gap, the others distribute approximately equally, and combined with retromarginal teeth into one row at half of its length to the base, slightly decreasing in size toward base; 7 retromarginal teeth, smaller than promarginal teeth, unevenly distribute and increasing in size toward base; fang slender, almost straight, inner margin lacking apophysis and keel, rapidly reduction at tip; reddish brown, yellow at tip. **Sternum-** slender, round at tip, tapering

at rear, yellowish brown. **Pedicel**- elongate, first segment slightly longer than second. **Abdomen**- black; slender, longer than carapace; with slightly constriction at one third of its length; constriction area with 2 creamy stripes laterally; ventral brown. **Spinnerets**- distinctly, brown. **Legs**- coxa I and trochanter I yellow, with one brownish stripe on inner and outer sides; femur I dark brown, with one yellowish stripe on upper side; patella I yellow, with 1 basal yellowish stripe on inner and outer sides; tibia I yellow, with one brownish stripe on inner side; metatarsus I brown, with one dark brownish stripe on inner and outer sides; tarsus I yellow; tibia I with 4 pairs of spines, and 2 pairs on metatarsus I; leg II entirely yellow, coxa II, trochanter II and femur II with 1 brownish stripe on inner and outer sides; patella I with 1 spine, 3 pairs on tibia II, and 2 pairs on metatarsus; coxa III and trochanter III dark brown, femur III brown, paler on upper and under sides; patella III yellow, with 1 brownish stripe on outer side; metatarsus III and tarsus III yellow; coxa IV and trochanter IV yellow, with 1 brownish stripe on outer side; femur IV dark brown, paler on upper and under sides; patella IV yellow, with 1 distal brownish spot on upper side; tibia IV yellow, with 1 brownish stripe on outer side; metatarsus IV and tarsus IV yellow. **Pedipalp**- yellow and brown at tip, tibia shorter than cymbium; cymbium with 1 bristle at tip; tibia apophysis unciform, with well development flange; loops of embolus forming two circles; seminal receptacle C-form right-up open.

Distribution Russia, Korea, Japan and Taiwan. (Fig. 25)

Myrmarachne kiboschensis Lessert, 1925 摺腹蟻蛛

(Fig. 12)

Myrmarachne kiboschensis Lessert, 1925: 441, f. 18-22 (m, f).

Myrmarachne diversicoxis Caporiacco, 1947: 227, pl. 2, f. 62 (f).

Myrmarachne kiboschensis Wanless, 1978: 78, f. 47A-G, 48A-K (m, f).

Myrmarachne kiboschensis Zabka, 1985: 247, f. 337-341 (m).

Myrmarachne kiboschensis Prószyński, 1992: 187, f. 93-98 (m, f).

Myrmarachne kiboschensis Peng et al., 1993: 137, f. 469-473 (m).

Myrmarachne kiboschensis Song, Zhu and Chen, 1999: 535, f. 304S (m).

Materials examined 1 male, Tunghai University (東海大學), Situn District, Taichung City, 3 June, 2001, collected by J. N. Huang., NSYSU-AR-00044.

Measurements (in millimeters) of male (n=1) <i>M. kiboschensis</i> .					
Characters	mean	sd.	min.	max.	CV (%)
Body length	3.47	-	-	-	-
carapace length	1.83	-	-	-	-
carapace width	0.90	-	-	-	-
chelicerae length	1.76	-	-	-	-
sternum length	0.94	-	-	-	-
sternum max. width	0.37	-	-	-	-
leg I femur	1.04	-	-	-	-
leg I patella	0.38	-	-	-	-
leg I tibia	0.92	-	-	-	-
leg I metatarsus	0.57	-	-	-	-
leg I tarsus	0.35	-	-	-	-
leg I	3.26	-	-	-	-
leg II	2.39	-	-	-	-
leg III	2.50	-	-	-	-
leg IV	3.51	-	-	-	-
pedipalp	1.17	-	-	-	-

Description Male: **Carapace-** orange, area around eyes black; upper surface with fine appressed white hairs, sparser on thorax and rim; thorax narrower than head, constriction between head and thorax distinctly, with a band of dense white hairs laterally; head higher than thorax, separated by a gradual slope. **Chelicerae-** orange, slightly longer than carapace; 12 promarginal teeth, distal 1 stronger, distributing evenly and slightly decreasing in size toward base; 7 retromarginal teeth, smaller than promarginal teeth, evenly distributing and decreasing in size toward base; fang slender, bent at basal quarter of its length, inner margin lacking apophysis and keel; reddish brown, yellow at tip. **Sternum-** broad, straight at tip, blunt-tapering at rear, yellow. **Pedichel-** not distinctly, segment equal in size. **Abdomen-** orange, brown at rear; oval-sharp, as long as carapace length; with slightly constriction at one third of its length, anterior bulging, with a fold at constriction area dorsally, ventral brown. **Spinnerets-** not distinctly, brown. **Legs-** coxa I yellow; trochanter I yellow, with one brownish stripe on inner and outer sides; femur I brown, paler on upper and under sides; patella I and tibia I yellow, with 1 brownish stripe on inner side; metatarsus I yellow, with 1 brownish stripe on outer side; tarsus I brown; tibia I with 1 spine outer, and 2 pairs on metatarsus I; leg II entirely yellow; coxa III and trochanter III yellow, paler on under side, femur III brown, inner side paler than outer side; patella III yellow, with one distal brownish spot on upper side; tibia III yellow, inner side paler than outer; metatarsus III and tarsus III yellow; coxa IV and trochanter IV yellow; femur IV brown; patella IV yellow, with 1 distal brownish spot on upper side; tibia IV brown, paler on upper side; metatarsus IV brown; tarsus IV yellow. **Pedipalp-** yellow; tibia apophysis approximately straight, without flange; loops of embolus forming two circles; sperm duct C-form right-up open, occupied large area of tegulum.

Distribution Africa, India, Viet Nam, China, and Taiwan (Fig. 26).

Myrmarachne lanyuensis sp. nov. 蘭嶼蟻蛛

(Fig. 13)

Holotype 1male, Lanyu Island (蘭嶼), Lanyu, Taidung county, 24 March, 2003, collected by J. N. Huang., NSYSU-AR-00253.

Paratypes 2 males, Lanyu Island (蘭嶼), Lanyu, Taidung county, 2 February, 2002, collected by J. N. Huang., NSYSU-AR-00195; NSYSU-AR-00192.

Etymology The species is named after its occurrence in Lanyu Island.

Diagnosis This new species resembles *M. pinakapalea* Barrion and Litsinger, 1995. , but differs in: 1. carapace shiny and hairless, but latter hairy; 2. seminal receptacle related small and slightly twisted, but latter broad and C-from. 3. tibia apophysis more twisted in latter.

Measurements (in millimeters) of male (n=4) <i>M. lanyuensis</i> .					
Characters	mean	sd.	min.	max.	CV (%)
Body length	5.43	0.17	5.20	5.62	3
carapace length	2.64	0.16	2.49	2.78	6
carapace width	1.31	0.05	1.25	1.37	4
chelicerae length	2.01	0.27	1.74	2.34	13
sternum length	1.47	0.09	1.35	1.54	6
sternum max. width	0.60	0.02	0.57	0.62	4
leg I femur	2.08	0.13	1.88	2.16	6
leg I patella	0.73	0.06	0.65	0.80	9
leg I tibia	2.16	0.10	2.03	2.28	5
leg I metatarsus	1.20	0.06	1.11	1.25	5
leg I tarsus	0.67	0.04	0.62	0.71	6
leg I	6.83	0.36	6.29	7.06	5
leg II	4.65	0.20	4.39	4.88	4
leg III	5.02	0.21	4.84	5.28	4
leg IV	7.34	0.46	6.79	7.84	6
pedipalp	2.20	0.11	2.11	2.35	5

Description Male: **Carapace-** shiny, dark brown, hairless; thorax narrower than head, constriction between head and thorax distinctly, with a narrow groove dorsolaterally just between head and thorax; head higher than thorax, separated by a steep slope. **Chelicerae-** reddish brown; strong and curved laterally, shorter than carapace; 5-6 promarginal teeth, unevenly distributing; 12-14 retromarginal teeth, smaller than promarginal teeth, evenly distributing and equal in size; fang waviness, inner margin with one apophysis at half of its length; dark brown, brown at tip. **Sternum-** straight at tip, blunt-tapering at rear, brown. **Pedicel-** distinctly, first segment longer than second. **Abdomen-** shiny, black, hairless; pear-sharp; with slightly constriction at quarter of its length; ventral brown. **Spinnerets-** distinctly, brown. **Legs-** coxa I and trochanter I brown, trochanter I with 1 yellowish spot on under side; femur I and patella I dark brown, patella I with 1 yellowish stripe on upper side; tibia I dark brown, yellow at tip; metatarsus I and tarsus I dark brown; tibia I with 5 pairs of spines, and 2 pairs on metatarsus I; coxa II and trochanter II brown, trochanter II with 1 yellowish spot on under side; femur II dark brown, with 1 distal and 1 basal yellowish spots on under side; patella II and tibia II yellow, with 1 dark brownish stripe on inner and outer sides; metatarsus II yellow, with 1 brownish stripe on inner and outer sides, inner one paler; tarsus II yellow; tibia II with 2 pairs of spines, and 2 pairs in metatarsus; leg III entirely dark brown except metatarsus III and tarsus III; metatarsus III yellow at tip and tarsus III yellow; coxa IV brown; trochanter IV light yellow; femur IV dark brown; patella IV yellow, with 1 distal and 1 basal dark brownish spot on upper side; tibia IV and metatarsus IV dark brown; tarsus IV dark brown, yellow at tip. **Pedipalp-** elongate, cymbium with 1 distal bristle; tibia apophysis slightly twisted, flange poorly developed; loops of embolus forming two circles; bublus related small, seminal receptacle tube small, slightly twisted as S-form, but the second loop not distinctly at right rim of tegulum.

Female: unknown.

Distribution Taiwan, known distributing in Lanyu Island. (Fig. 27)

Myrmarachne laticorseleta sp. nov. 寬胸蟻蛛

(Fig. 14, 15)

Holotype 1 male, Leshan forest trail (樂山林道), Nanjhuang, Miali county, 13 August, 2002, collected by J. N. Huang., NSYSU-AR-00045.

Paratypes 1 female, Jinshueiying (浸水營), Chunrih, Pingtung county, 30 April, 2003, collected by Z. C. Lin., NSYSU-AR-00245; 1 male, Shouka (壽卡), Shihzih, Pingtung county, 30 April, 2003, collected by H. D. Jhu., NSYSU-AR-00256; Leshan trail (樂山林道), Nanjhuang, Miali county, 13 August, 2002, collected by J. N. Huang., NSYSU-AR-00046; 1 male, Yuanfong (鳶峰), Renai, Nantou county, 24 July, 2002, collected by Y. H. Jhang., NSYSU-AR-00047; 1 female, Dahamshan (大漢山), Chunrih, Pingtung county, 7 July, 2004, collected by M. J. Hong., NSYSY-AR-00268.

Other Materials examined 1 male, Shanping (扇平), Maolin, Kauoshong county, 21 February, 2003, collected by J. N. Huang., NSYSU-AR-00032; 1 male, Shanping (扇平), Maolin, Kauoshong county, 21 April, 2002, collected by C. R. Lyu., NSYSU-AR-000246.

Etymology This species is named after its related broad thorax. *Lati-* is a Latin prefix, meaning wide.

Diagnosis The new species is similar to *M. gedongensis*, Badcock, 1918, especially in the pedipalp, but differs from latter in 1. sternum anterior round not blunt pointing; 2. promarginal and retromaginal teeth distributing approximately evenly, but latter unevenly distributing; 3. thorax and head almost equal in width, but latter thorax narrower than head.

Measurements (in millimeters) of male (n=6) and female (n=1) <i>M. laticorseleta</i> .										
Characters	mean		sd.		min.		max.		CV (%)	
	male	female	male	female	male	female	male	female	male	female
Body length	4.54	5.95	0.54	-	3.87	-	5.37	-	12	-
carapace length	2.22	2.75	0.29	-	1.86	-	2.59	-	13	-
carapace width	1.15	1.36	0.10	-	1.05	-	1.30	-	9	-
chelicerae length	0.89	-	0.24	-	0.70	-	1.30	-	27	-
sternum length	1.15	1.46	0.18	-	0.99	-	1.42	-	16	-
sternum max. width	0.46	0.47	0.04	-	0.41	-	0.52	-	9	-
leg I femur	1.28	1.45	0.25	-	1.08	-	1.66	-	19	-
leg I patella	0.56	0.68	0.11	-	0.47	-	0.72	-	19	-
leg I tibia	1.21	1.39	0.25	-	1.02	-	1.57	-	21	-
leg I metatarsus	0.66	0.75	0.09	-	0.58	-	0.77	-	13	-
leg I tarsus	0.44	0.44	0.04	-	0.43	-	0.51	-	8	-
leg I	4.15	4.71	0.72	-	3.60	-	5.23	-	17	-
leg II	3.04	3.18	0.45	-	2.54	-	3.64	-	15	-
leg III	3.43	4.30	0.62	-	2.90	-	4.32	-	18	-
leg IV	5.00	6.37	0.82	-	4.22	-	6.15	-	16	-
pedipalp	1.86	-	0.32	-	1.59	-	2.32	-	17	-

Description Male: Carapace- light orange to reddish brown; area around eyes black; head with two dark brown spots dorsal distally, when preserved; thorax approximately in equal width of head, with slightly constriction between head and thorax; head and thorax approximately in equal height, with very shallow lateral notch between head and thorax. **Chelicerae-** yellowish brown to reddish brown shorter than half length of carapace, basal with tuft white hairs; 6 promarginal teeth, second one largest, distributing evenly and decreasing in size toward base; 6 retromarginal teeth, smaller than promarginal teeth, slightly decreasing in size and closer toward at base; fang slender, inner margin lacking keel and apophysis; reddish brown, yellow at tip. **Sternum-** broad, straight at tip, blunt-point at rear, yellowish brown to brown. **Pedichel-** not distinctly, first segment longer than second. **Abdomen-** reddish brown to brown; oval-sharp, with slightly constriction at one third of its length, anterior of

abdomen slightly bulging; with one white stripe at constriction area laterally; ventral creamy to yellow. **Spinnerets**- not distinctly, brown. **Legs**- coxa I and trochanter I yellow; femur I brown, yellowish brown on distal under side; patella I yellow; tibia I yellowish brown, with 1 brownish stripe on inner and outer sides; metatarsus I brown, with 1 dark brownish stripe on inner and outer sides; tarsus I yellowish brown; patella I with 1 pairs of spines, 5 pairs on tibia I and 2 pairs on metatarsus I; coxa II and trochanter II yellow; femur II yellow, with 1 brownish stripe on inner side and 1 short distal brownish stripe on outer side; patella II yellow; tibia II, metatarsus II and tarsus II yellowish brown; tibia II with 2-3 pairs of spines, and 2 pairs on metatarsus II; coxa III and trochanter III yellow; femur III yellow, brown on distal inner and outer sides; patella III yellow; tibia III yellowish brown, with 1 basal brownish stripe on outer side; metatarsus III and tarsus III yellowish brown; coxa IV and trochanter IV yellow; femur IV brown; patella IV yellow, with 1 distal brownish spot on upper side; metatarsus IV brown, with 1 dark brownish stripe on inner an outer sides; tarsus IV yellow. **Pedipalp**- brown, longer than carapace; cymbium flatten and broad, with 2 distal bristles; tibia apophysis slightly twisted, with well developed flange expanded into another apophysis ventrally; loops of embolus forming two circles; with circular seminal receptacle at tegulum rim.

Female: Carapace- light brown to reddish brown; area around eyes black; thorax approximately in equal width of head, with slightly constriction between head and thorax, with orange stripe between head and thorax; head and thorax approximately in equal height, with very shallow lateral notch between head and thorax. **Chelicerae**- yellowish brown to reddish brown. **Sternum**- broad, straight at tip, blunt-point at rear, yellow. **Pedichel**- not distinctly, first segment longer than second. **Abdomen**- yellowish brown, with 2 drosal yellowish stripes posteriorly; long oval-sharp, slightly constricted at one third of its length, anterior of abdomen bulging; ventral creamy.

Spinnerets- not distinctly, yellowish brown. **Legs**- coxa I and trochanter I yellow; femur I, yellowish brown, yellow at tip; patella I yellow, paler on inner side; tibia I yellow, paler on inner side; metatarsus I yellowish brown; tarsus I yellow; patella I with 2 pairs of spines, 6 pairs on tibia I and 2 pairs on metatarsus I; leg II entirely yellow; femur II with 1 brownish stripe; tibia II with 3 pairs of spines, and 2 pairs on metatarsus II; coxa III, trochanter III and femur III yellowish brown; patella III yellow, with one distal brownish spot on upper side; tibia III, metatarsus III and tarsus III yellow; coxa IV, trochanter IV and femur IV yellowish brown; patella IV yellow, with 1 distal brownish spot on upper side; tibia IV yellowish brown, yellow at tip; metatarsus IV yellow, yellowish brown at tip and rear; tarsus IV yellow. **Epigynum**- “Windows” oval sharp separated by the middle septum into two parts, spermathecae simple spherical broadenings of almost straight sclerotized canals without any sclerotized coils.

Distribution Taiwan. (Fig. 28)

Myrmarachne luteopalpis sp. nov. 黃肢蟻蛛

(Fig. 16)

Holotype 1 male, Kending (墾丁), Hengchun, Pingtung county, 11 November, 2001, collected by I. M. Jhuo., NSYSU-AR-00194;

Paratype 1 male, Nanrenshan (南人山), Manzhou, Pingtung county, 7 April, 2001, collected by J. N. Huang., NSYSU-AR-00026; 1male, Yong'an agricultural path (永安產業道路), Yanping, Taidung county, 21 April, 20003, collected by J. N. Huang., NSYSU-AR-00185.

Etymology The species is named because of its creamy pedipalp, *Luteo-* is a Latin prefix, meaning yellow.

Diagnosis This new species differs from any other known congeneric species in: 1. un-constricted carapace and abdomen; 2. creamy pedipalp and legs; 3. twisted tibia apophysis without flange, 4. small bubulus occupied by related large S-forming seminal receptacle.

Measurements (in millimeters) of male (n=1) *M. luteopalpis*.

Characters	mean	sd.	min.	max.	CV (%)
Body length	3.30	-	-	-	-
carapace length	1.70	-	-	-	-
carapace width	0.94	-	-	-	-
chelicerae length	1.20	-	-	-	-
sternum length	0.91	-	-	-	-
sternum max. width	0.39	-	-	-	-
leg I femur	0.88	-	-	-	-
leg I patella	0.41	-	-	-	-
leg I tibia	0.72	-	-	-	-
leg I metatarsus	0.46	-	-	-	-
leg I tarsus	0.30	-	-	-	-
leg I	2.77	-	-	-	-
leg II	2.06	-	-	-	-
leg III	2.13	-	-	-	-
leg IV	3.08	-	-	-	-
pedipalp	1.01	-	-	-	-

Description Male: Carapace- reddish brown to dark brown, area around eyes black; with white appressed hairs dorsally, sparser on thorax and lateral; with a long stripe of dense white hairs from anterior to posterior at rim of carapace; thorax slightly narrower than head, constriction between head and thorax not distinctly, head slightly higher than thorax, without lateral notch. **Chelicerae-** shorter than carapace, reddish brown to dark reddish brown; 6 promarginal teeth, unevenly distributing and decreasing in size toward to base; 8 retromarginal teeth, much smaller than promarginal teeth, approximately evenly distributing and equal in size; fang slender, inner margin lacking apophysis, with several small keel at inner margin distally; reddish brown to dark brown, yellow at tip. **Sternum-** broad, straight at tip, blunt-point at rear, reddish brown. **Pedicel-** not distinctly, segments in equal length. **Abdomen-** elongate, creamy to yellow; without constriction, anterior of abdomen slightly bulging laterally; lateral with a band of white setae at one third of its length;

ventral yellowish brown to reddish brown. **Spinnerets**- small size, reddish brown to dark brown. **Legs**- leg I entirely yellow, tibia I with 1 basal brownish stripe on inner and outer sides; metatarsus I with 1 basal brownish spot on outer side; tibia I with 3 pairs of spines, and 2 pairs on metatarsus I; leg II entirely yellow; tibia II with 2 spines outer, and 2 pairs on metatarsus II; leg III entirely yellow, femur III with 1 brownish stripe on inner and outer sides, paler on inner; patella III with 1 distal brownish spot on outer side, tibia III with one basal brownish spot on outer side; coxa IV and trochanter IV yellow, with 1 brownish stripe on outer side; femur IV brown, with 1 distal dark brownish spot on outer side; patella IV yellow, with 1 distal brownish spot on outer side; tibia IV yellow, with one dark brownish stripe on outer side; metatarsus IV yellow, with basal brownish spot on inner and outer sides; tarsus IV yellow. **Pedipalp**- creamy, tibia shorter than cymbium; cymbium with 1 stout distal bristle; tibia apophysis slightly twisted, without flange; loops of embolus forming two circles; seminal receptacle S-form.

Distribution Taiwan (Fig. 29)

Myrmarachne magna (Saito, 1933) 大蟻蛛

(Fig. 17, 18)

Myrmarachne magnus Saito 1933. 40. pl. 3. f. 27, a-g. (m)

Materials examined 1 male, Jhongping forest trail (中平林道), Jhuosi, Hualien county, 9 July, 2003, collected by J. N. Huang., NSYSU-AR-00113; 1 female, Jhongping forest trail (中平林道), Jhuosi, Hualien county, 9 July, 2003, collected by J. N. Huang., NSYSU-AR-00251; 1 male, Lianhuachih (蓮華池), Yuchih, Nantou County, 23 August, 2002, collected by J. N. Huang., NSYSU-AR-00014; 1 female, Guangfu forest trail (光復林道), Wanrong, Hualien county, 19 July, 2003, collected by J. N. Huang., NSYSU-AR-00218; 1 male, Shangwu (尚武), Dawu, Taidung County, 15 April, 2003, collected by J. N. Huang., NSYSU-AR-00128; 1 male, Sinsing (新興村), Taimali, Taidung County, 17 April, 2003, collected by J. N. Huang., NSYSU-AR-00125; Syuewunao (雪霧鬧), Fusing, Taoyuan County, 15 July, 2003, collected by J. N. Huang., NSYSU-AR-00116; 1 male, Laliba agricultural path (拉里巴產業道路), Daren, Taidung County, 16 April, 2003, collected by J. N. Huang., NSYSU-AR-0013; 1 male, Daniao (大鳥), Dawu, Taidung County, 16 April, 2003, collected by J. N. Huang., NSYSU-AR-00130.

Measurements (in millimeters) of male (n=8) and female (n=2) <i>M. magna</i> .										
Characters	mean		sd.		min.		max.		CV (%)	
	male	female	male	female	male	female	male	female	male	female
Body length	6.77	7.23	0.95	0.49	5.54	6.88	8.05	7.58	14	7
carapace length	3.30	3.19	0.45	0.11	2.69	3.11	3.82	3.27	14	4
carapace width	1.75	1.73	0.18	0.11	1.52	1.65	1.99	1.80	11	6
chelicerae length	2.52	-	0.54	-	1.86	-	3.16	-	22	-
sternum length	1.82	1.65	0.25	0.05	1.50	1.61	2.10	1.68	14	3
sternum max. width	0.73	0.58	0.14	0.02	0.55	0.56	0.90	0.59	19	4
leg I femur	3.34	2.94	0.57	0.16	2.71	2.83	4.06	3.05	17	5
leg I patella	1.32	1.27	0.21	0.11	1.09	1.19	1.57	1.34	16	8
leg I tibia	3.38	2.98	0.57	0.28	2.74	2.78	4.13	3.17	17	9
leg I metatarsus	1.36	1.26	0.19	0.08	1.17	1.20	1.66	1.31	14	6
leg I tarsus	0.77	0.72	0.10	0.06	0.65	0.67	0.91	0.76	13	9
leg I	10.19	9.15	1.62	0.68	8.42	8.67	11.26	9.63	16	7
leg II	6.04	5.78	0.91	0.01	4.98	5.77	7.40	5.79	15	0
leg III	6.19	6.04	0.89	0.23	5.11	5.88	7.35	6.20	14	4
leg IV	9.23	9.26	1.20	0.59	7.81	8.84	10.69	9.67	13	6
pedipalp	3.46	-	0.51	-	2.81	-	4.12	-	15	-

Description Male: Carapace- dark brown to black, covered with dense appressed white hairs; apical rim of carapace with tufted long white hairs; thorax narrower than head, with a shallow groove dorsolaterally just between head and thorax; head higher than thorax, separated by a steep step. **Chelicerae-** reddish brown to dark brown, large and strong, equal or shorter than carapace, upper surface darker; with two distal prolateral spurs on inner side, distal one large and forward-pointed, the second one smaller at one quarters of chelicerae length; 7-8 promarginal teeth, excluding 2 spurs, decreasing in size toward base except smaller first one, distribute evenly; 1-2 retromarginal teeth, much smaller than promarginal teeth; fang slender, inner margin lacking keel and apophysis; dark brown, yellow at tip. **Sternum-** broad, round at tip, taper at rear, yellowish brown. **Pedicel-** not distinctly, dark brown, segments equal in length. **Abdomen-** dark brown, oval-sharp, coved with dense fine apressed hairs;

without constriction; ventral yellowish brown, the front of spinnerets with red brownish spot. **Spinnerets**- not distinctly, yellowish brown. **Legs**- coxa I and trochanter I yellow, basal of coxa I brown; trochanter I with 1 brownish stripe on outer side; femur I dark brown; patella I yellow, with 1 brownish stripe on inner and outer sides; tibia I dark brown, yellow at tip; metatarsus I and tarsus I dark brown; tibia I with 6 pairs of spines and 2 pairs long spines on metatarsus I; coxa II, trochanter II, femur II and patella II dark brown; tibia II and metatarsus II yellow, with 1 brownish stripe on inner and outer sides; tarsus II yellow; with 3 pairs of spines on tibia II and 2 pairs on metatarsus II; coxa III and trochanter III brown; femur III dark brown; patella III yellow, with 1 basal and 1 distal dark brownish spot on upper side; tibia III dark brown, distal yellow on upper side; metatarsus III and tarsus III yellow, metatarsus III with 1 brownish stripe on inner and outer sides; coxa IV dark brown; trochanter IV creamy; femur IV, tibia IV and metatarsus IV dark brown; patella IV yellow, with 1 basal and 1 distal dark spot on upper side; metatarsus IV yellow, with 1 brownish stripe on inner and outer sides. **Pedipalp**- elongate, longer than chelicerae; brown, dark brown at tibia and cymbium; tibia and cymbium with dense, long stiff dark hairs prolaterally; with 2 distal bristles on cymbium; tibia apophysis slightly twisted, without flange; loops of embolus forming two circles; with right-up open C-form seminal receptacle at tegulus rim.

Female: Carapace- dark brown to black, with very dense short appressed white hairs; thorax narrower than head, with slightly constriction; head higher than thorax, head and thorax separated by a lateral notch. **Chelicerae**- reddish brown to dark brown; yellow at tip. **Sternum**- elongate, round at tip, taper at rear, yellowish brown. **Pedicel**- not distinctly, dark brown, segments with equal length. **Abdomen**- dark brown, oval-sharp, covered with very dense fine appressed white hairs; without constriction; ventral yellowish brown. **Spinnerets**- not distinctly, yellowish brown.

Legs- coxa I and trochanter I yellow; femur I dark brown, yellow on under and inner sides; patella I yellow, with 1 brownish stripe on inner and outer sides; tibia I yellow, with 1 brownish stripe from basal to one third of its length on inner and outer sides; metatarsus I and tarsus I dark brown; tibia I with 6-7 spines on inner side and 6-7 spines on outer side, and 2 pairs long spines on metatarsus I; coxa II brown, yellow on upper side; trochanter II yellow, with 1 brownish stripe on inner and outer sides; femur II dark brown, with 1 distal yellowish spot on inner side; patella II yellow, with 1 dark brownish stripe on inner and outer sides; metatarsus II and tarsus II yellow; tibia II with 3 pairs of spines and 2 pairs on metatarsus II; coxa III brown; trochanter III and femur III dark brown; patella III yellow, with 1 distal dark brownish spot on upper side; tibia III dark brown, yellow at tip on upper and under sides; metatarsus III and tarsus III yellow, metatarsus III with 1 brownish stripe from basal to one third of its length on inner and outer sides; coxa IV brown; trochanter IV creamy; femur IV dark brown; patella IV yellow, with one distal dark spot on upper side; tibia IV dark brown, yellow at tip on upper and under sides; metatarsus IV dark brown; tarsus IV yellow, with one brownish stripe on inner and outer sides. **Pedipalp-** dark brown, tibia and cymbium with dense, long stiff dark hairs prolaterally. **Egigynum-** “windows” oval-sharp, separated by the middle broad septum into two parts, spermathecal tube short, slightly curved, without coil.

Remarks Saito (1933) had described a new species *M. magnus* Saito, 1933 (sym. *M. magna* (Saito, 1933)) from Taiwan. It's also a large blackish species, covered with dense hairs on carapace and abdomen, with leg formula in 1432. We confirmed our describing species is identical to *M. magna* (Saito, 1933), as the following reason: 1. base on the illustration, body shape is similar, thorax slightly narrower than head, with oval-sharp abdomen; 2. leg I with 6 spines may be mis-describing, base on the

illustration, all the spines were on the same side of leg, the spines on the leg I are usually paired of genus *Myrmarachne*, so it ought to with 6 pairs spines of leg I (tibia I), so leg character is also similar; 3. color pattern of legs is similar. 4. body scattered with dense white hairs, this character is distinctive; 5. chelicerae with 8 marginal teeth is similar because retromarginal teeth are very small easy be ignored, no addition inner margin spurs were mentioned, it may be ignored by Saito. Therefore we consider our study species is *M. magna* (Saito, 1933). Koh (1989) reported several photographs of ant-like jumping spiders from Taiwan (1989: 129, 131, labeled in *M. maxillosa*), we believed that species is identical to the species we discussed here, because of its uniquely strong hairy blackish body. There are many congeneric species are similar to our study species: *M. aureonigra* Edmunds and Prószyński, 2003 (from peninsula Malaya), *M. caliraya* Barrion and Litsinger, 1995 (from Philippines), *M. hirsutipalpi* Edmunds and Prószyński, 2003 (from peninsula Malaya), *M. maxillosa* (C. L. Koch, 1846) (from Burma, Andaman, Indonesia, Australia, Philippines, Taiwan?) and *M. maxillosa septemdentata* Strand, 1907 (from China), and they all very similar to each other, especially in genitals. Those species are occurred in south-east Asia to China. The geographical relation are closed but separated. It's not clear of these species are conspecific or separated (Edmunds and Prószyński, 2003). Because of our describing species have enormous longest leg I, the leg formula is 1432, apical rim of carapace with tufted long white hairs; and the colour pattern of legs allow distinct apart from those similar congeneric species.

Distribution Taiwan (Fig. 30).

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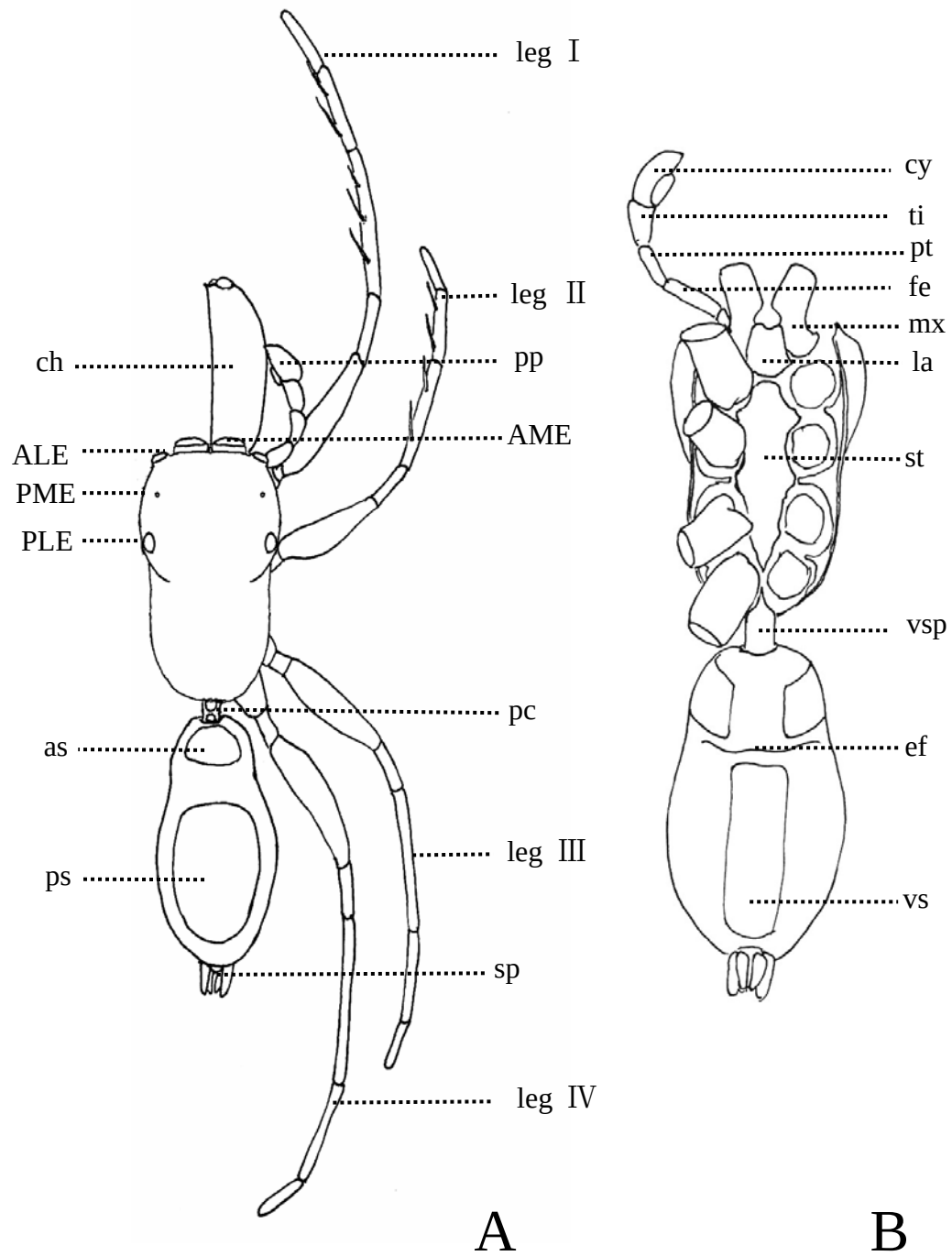


Fig.1 Generalized structures of *Myrmarachne* in (A) dorsal view; (B) ventral view. Explanation of abbreviations see Table 3.

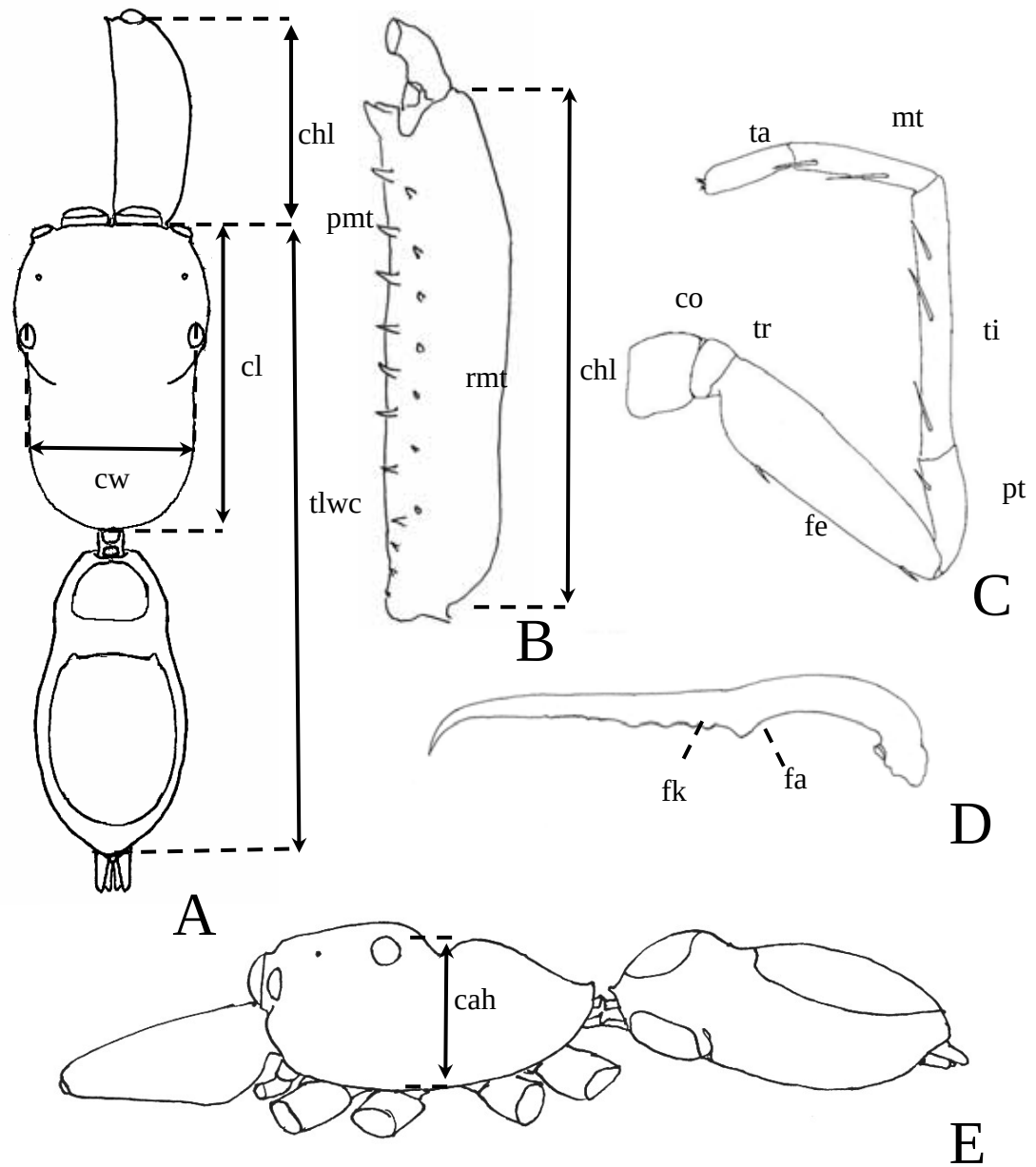


Fig. 2. Indices of measurement range and generalized structures of *Myrmarachne* (A) body in dorsal view; (B) male chelicerae in ventral view; (C) leg I; (D) fang in lateral view; (E) body in lateral view. Explanation of abbreviations see table 3.

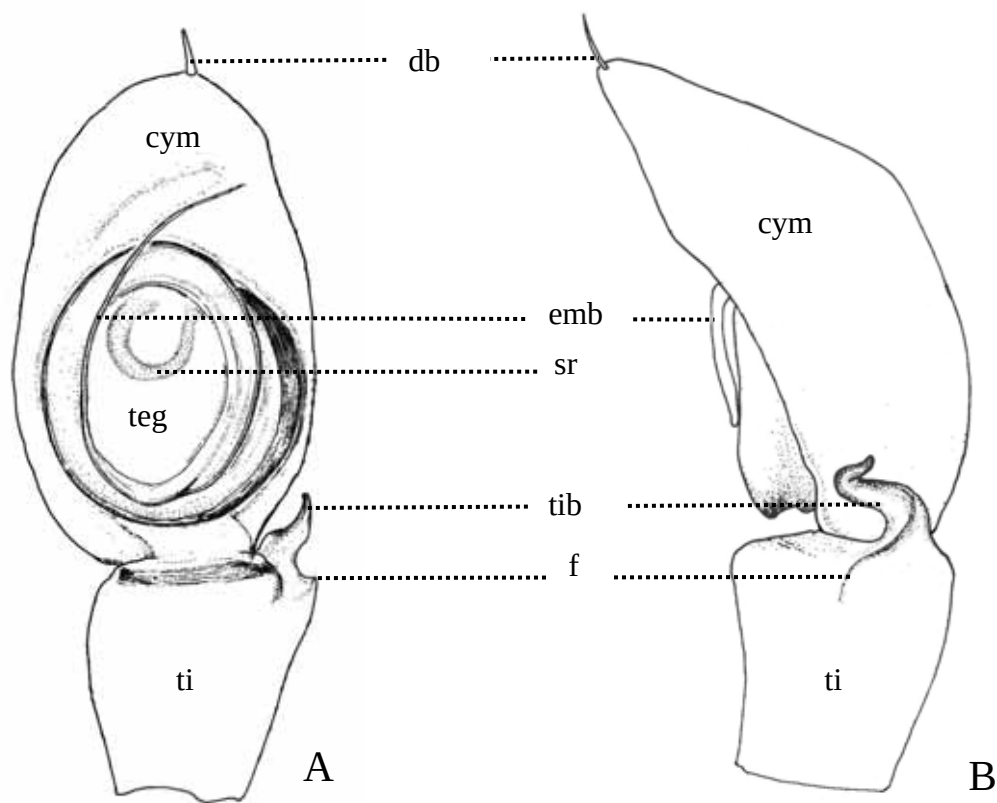


Fig. 3. Generalized structures of male *Myrmarachne* in (A) ventral view; (B) lateral view. Explanation of abbreviations see table 3.

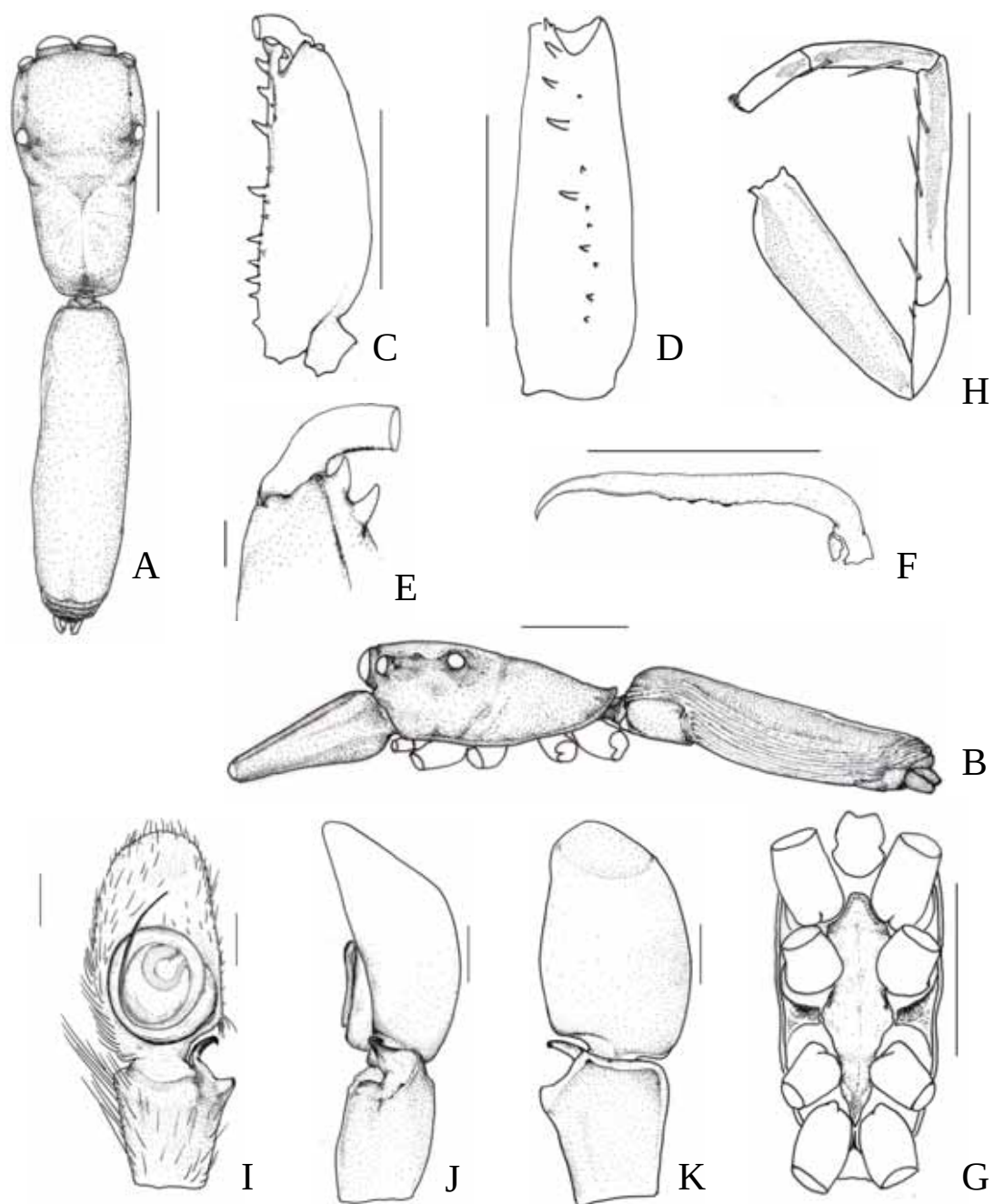


Fig. 4. Adult male of *Myrmarachne annamita* Zabka, 1985.

(A) body, dorsal view; (B) body, lateral view; (C) left chelicerae, retrolateral view; (D) left chelicerae, ventral view; (E) distal teeth of left chelicerae; (F) fang; (G.) carapace, ventral view; (H) leg I; (I) left palpal organ, ventral view; (J) left palpal organ, lateral view; (K) left palpal organ, dorsal view; Scale lines=1 mm (A-D, F -H), 0.1 mm (E, I-K).

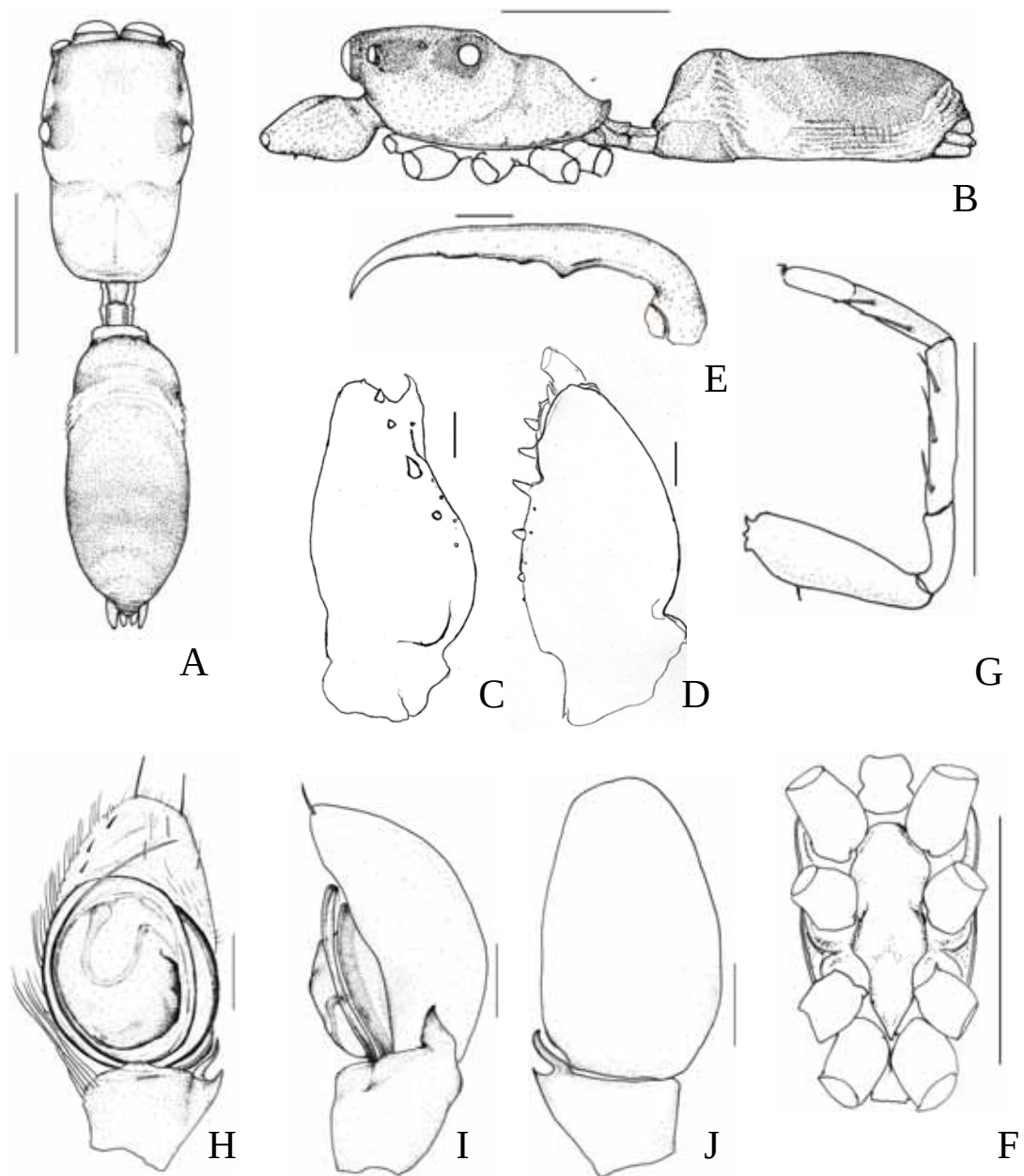


Fig. 5. Adult male of *Myrmarachne edwardsi* Berry, Beatty and Proszynski, 1996. (A) body, dorsal view; (B) body, lateral view, (C) left chelicerae, prolateral view; (D) left chelicerae, retrolateral view; (E) fang; (F) carapace, ventral view; (G) leg I; (H) left palpal organ, ventral view; (I) left palpal organ, lateral view; (J) left palpal organ, dorsal view. Scale lines= 1 mm (A-B, F-G), 0.1mm (C-E, H-J).

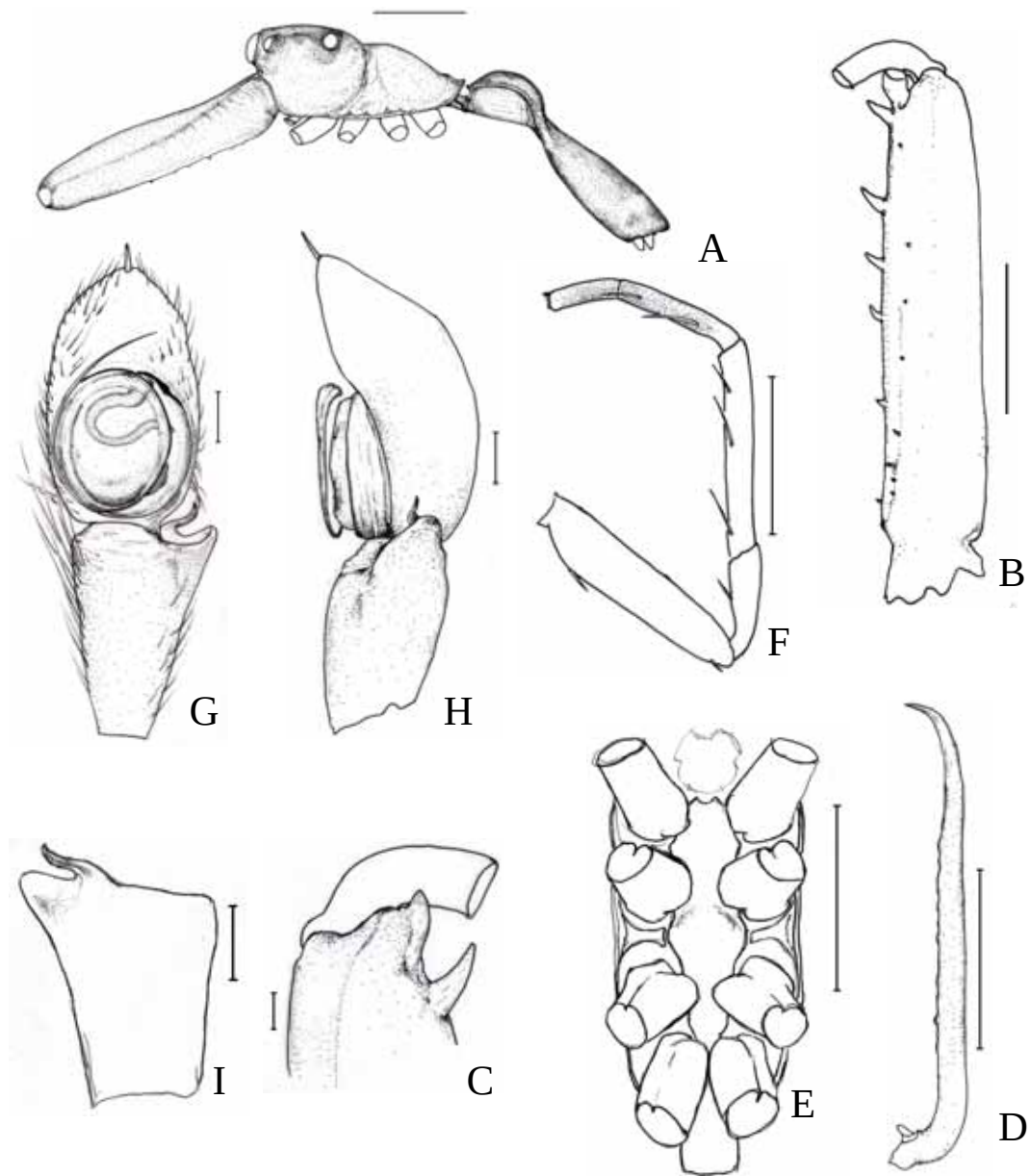


Fig. 6. Adult male of *Myrmarachne exilisata* sp. nov.

(A)body, lateral view; (B)left chelicerae, retrolateral view; (C)distal teeth of chelicerae; (D)fang; (E)carapace, ventral view; (F)leg I; (G)left palpal organ, ventral view; (H)left palpal organ, lateral view; (I)tibia apophysis, lateral view. Scale lines= 1 mm (A-B, D-F), 0.1mm (C, G-I).

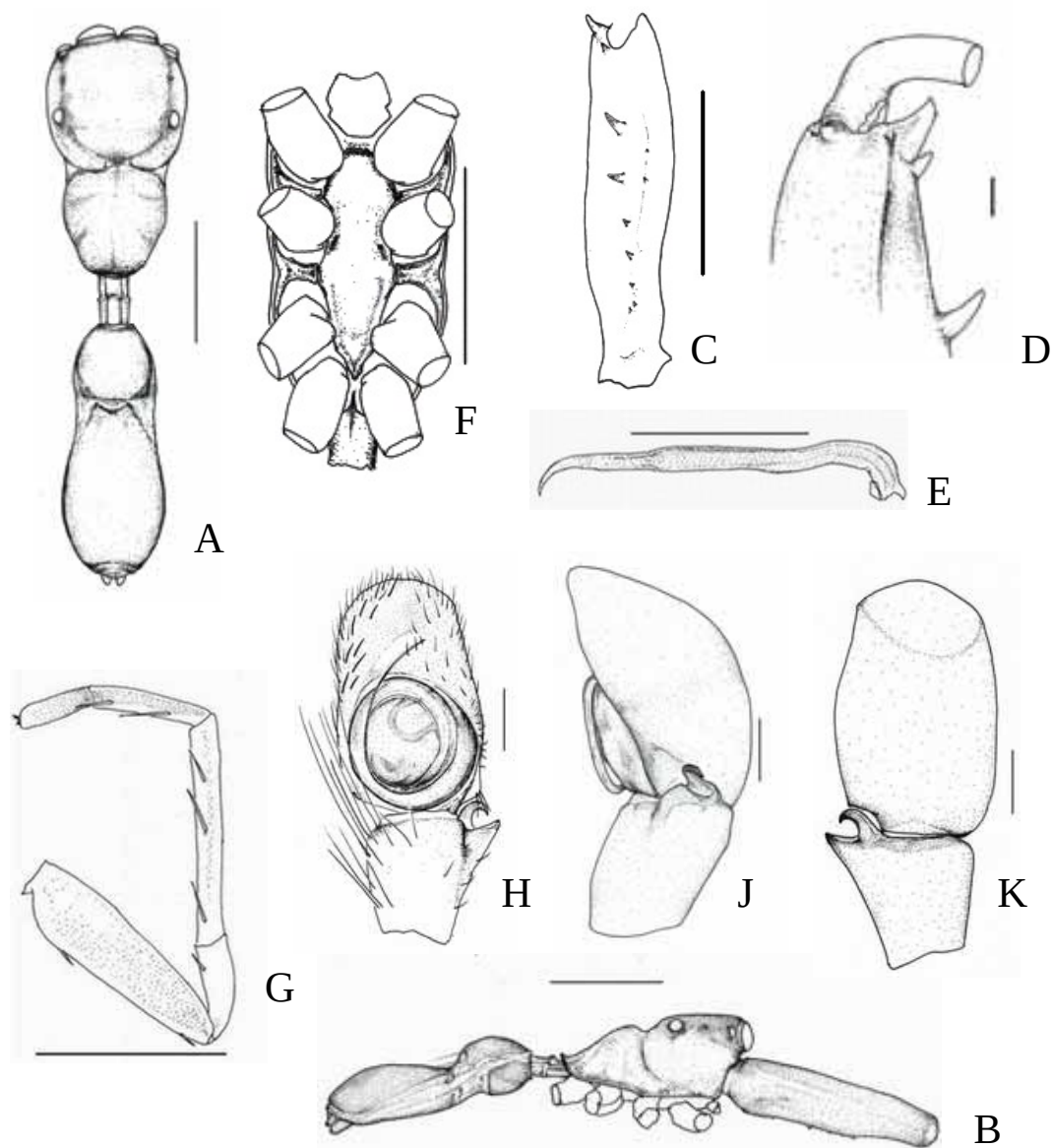


Fig. 7. Adult male of *Myrmarachne formosana* (Saito, 1933).

(A) body, dorsal view; (B) body, lateral view; (C) left chelicerae, ventral view; (D) distal teeth of chelicerae; (E) fang; (F) carapace; ventral view; (G) leg I; (H) left palpal organ, ventral view; (I) left palpal organ, lateral view; (J) left palpal organ, dorsal view. Scale lines=1 mm (A-C, E-G), 0.1mm (D, H-J).

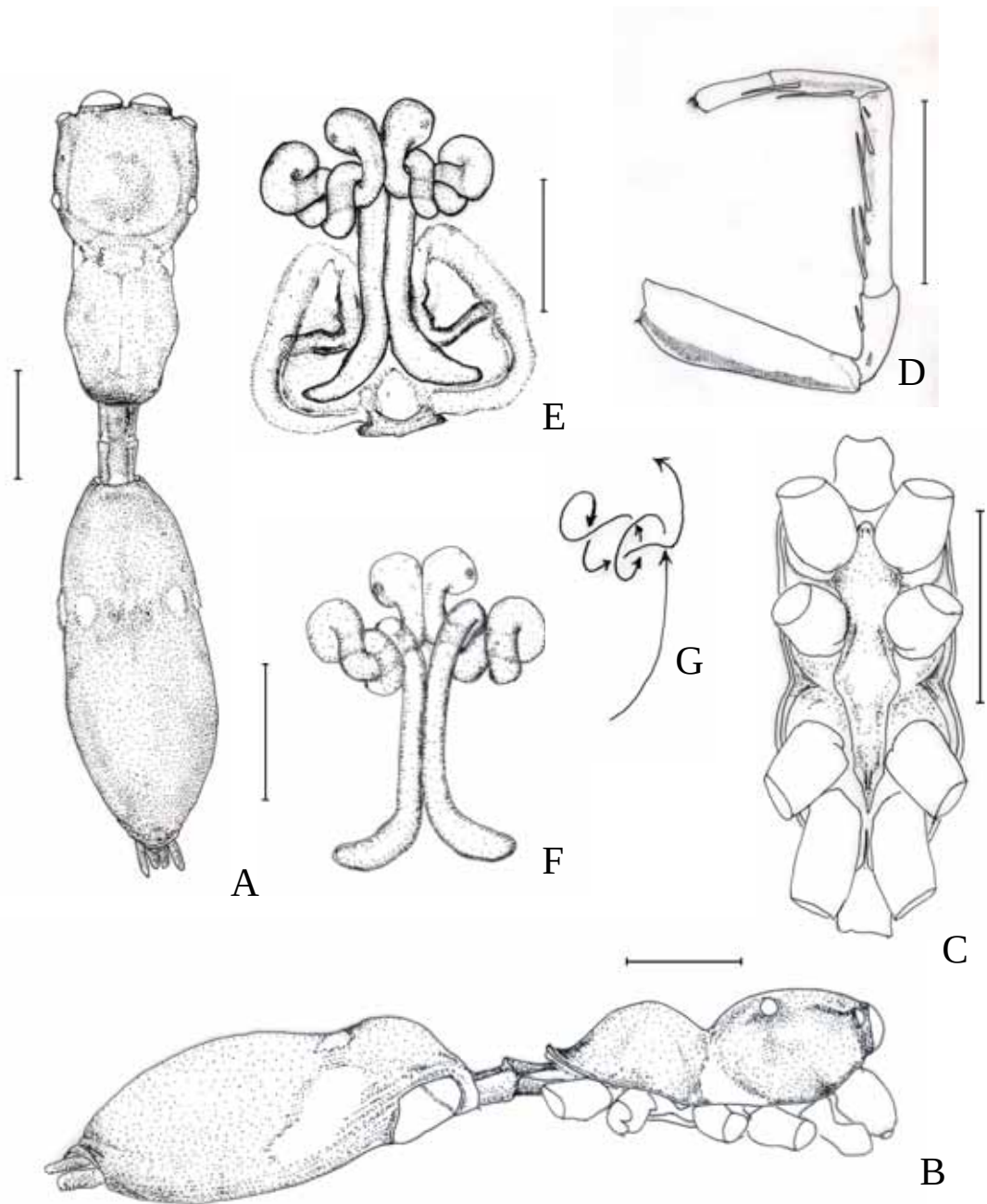


Fig. 8. Ault female of *Myrmarachne formosana* (Saito, 1933).

(A)body, dorsal view; (B)body, lateral view; (C)carapace; ventral view; (D)leg I; (E)epigynum, general appearance; (F)epigynum, internal structure. Scale lines =1 mm (A-D), 0.1 mm (E-F).

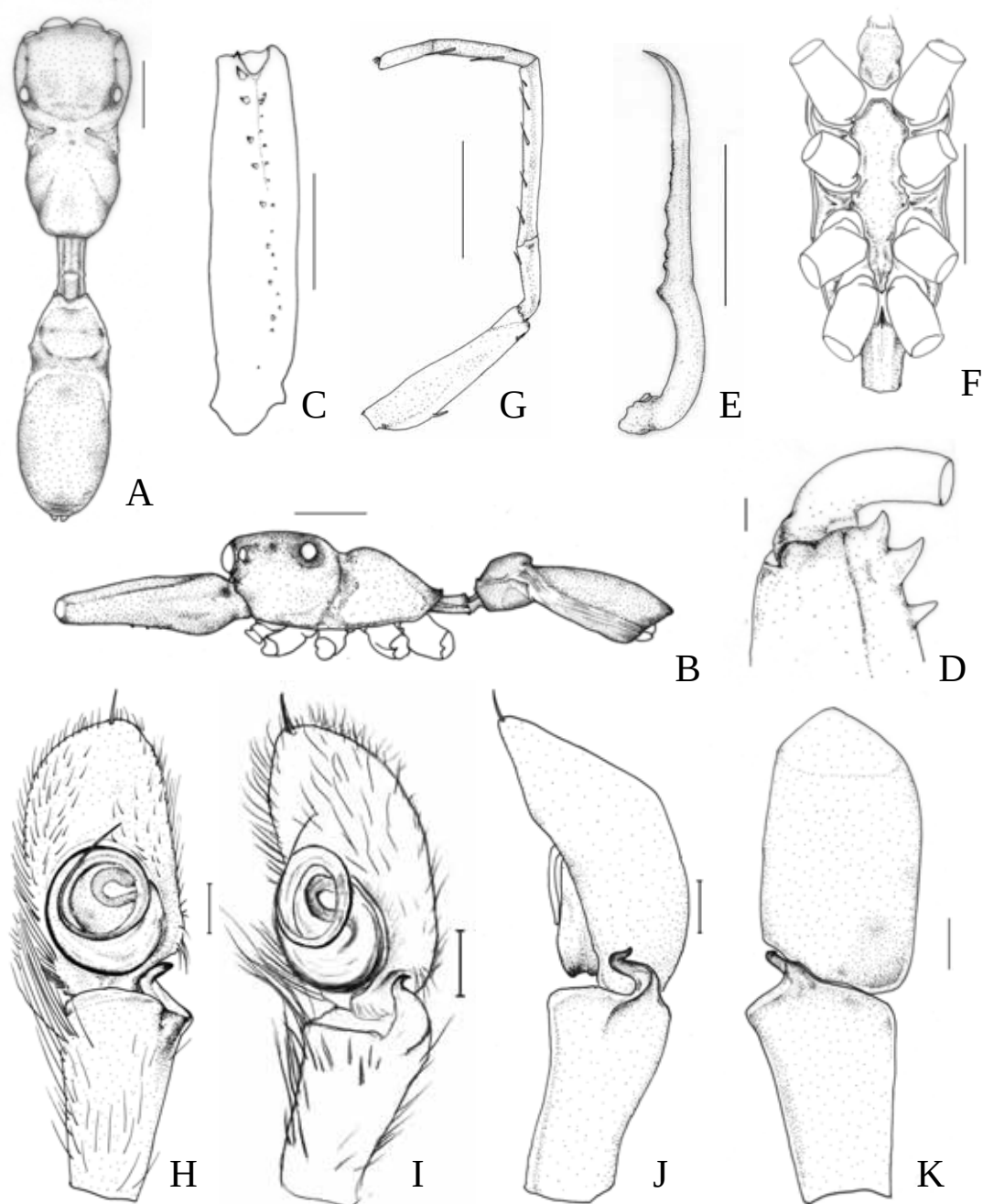


Fig. 9. Adult male of *Myrmarachne formosicola* Strand, 1910.

(A) body, dorsal view; (B) body, ventral view; (C) left chelicerae, ventral view; (D) distal teeth of left chelicerae; (E) fang; (F) carapace, ventral view; (G) leg I; (H) left palpal organ, ventral view; (I) left palpal organ, prolateral view; (J) left palpal organ, lateral view; (K) left palpal organ, dorsal view. Scale lines=1 mm (A-C, E, -G), 0.1mm (D, H- K).

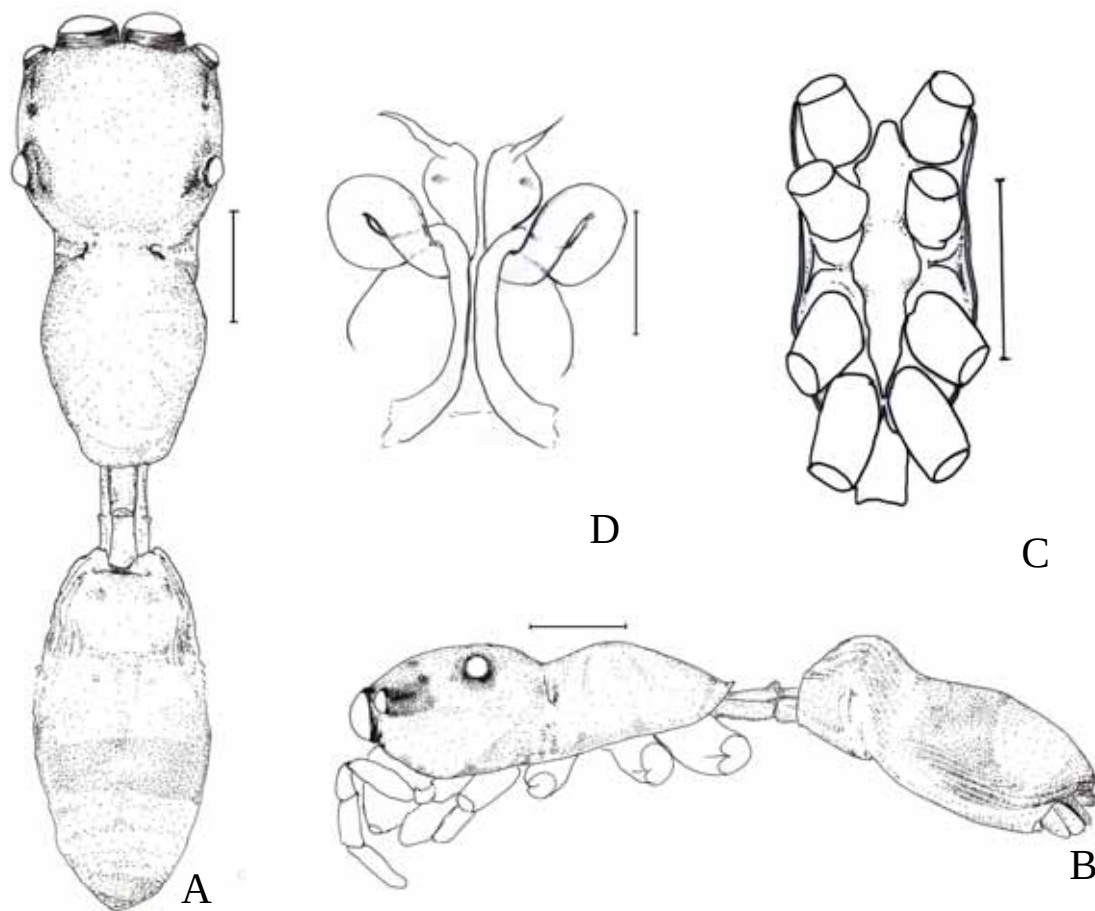


Fig. 10. Adult female of *Myrmarachne formosicola* Strand, 1910.

(A)body, dorsal view; (B)body, lateral view; (C)carapace, ventral view; (D) epigynum, internal structure. Scale lines=1 mm (A-C), 0.1 mm (D).

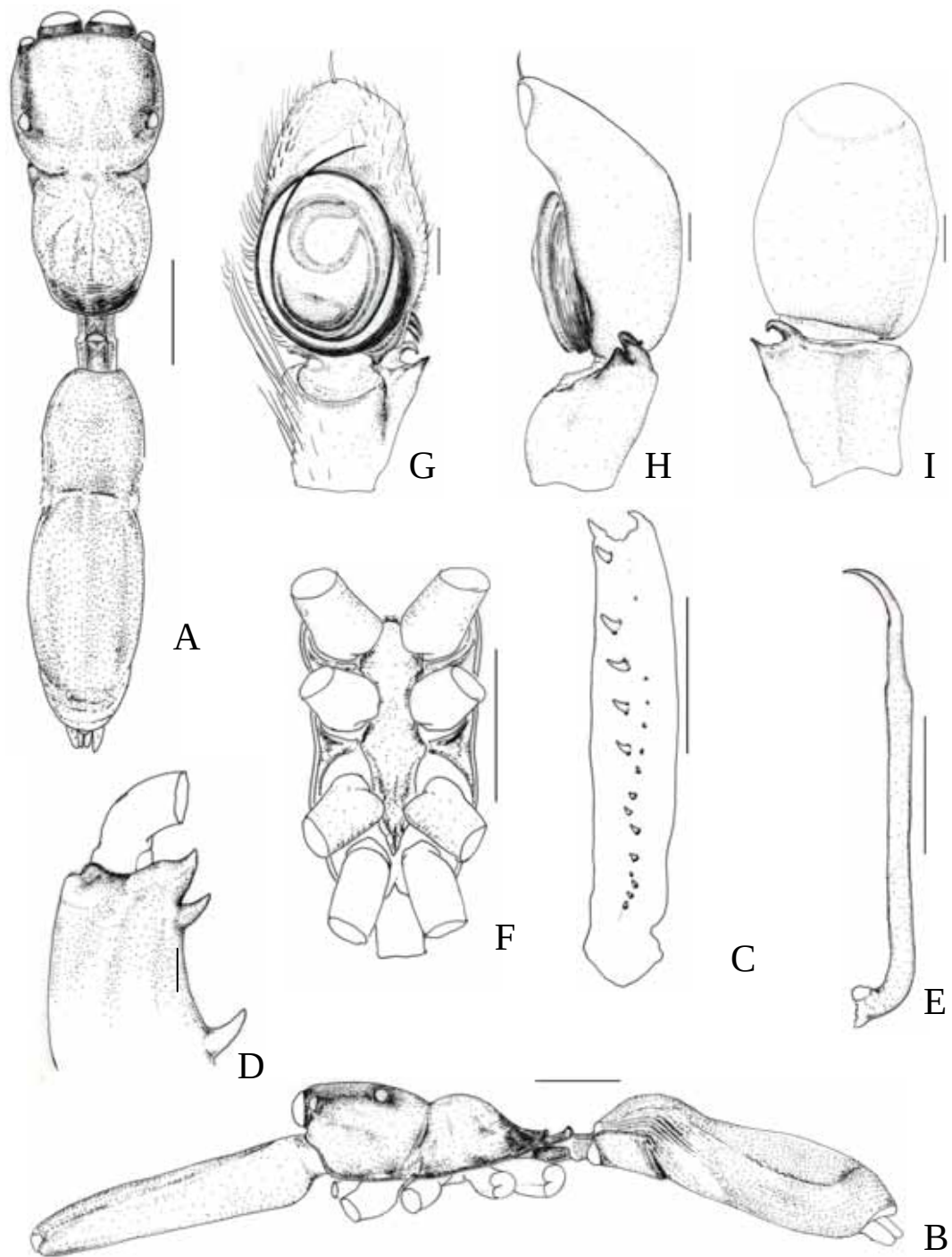


Fig. 11. Adult male of *Myrmarachne inermichelis* Bösenberg and Strand, 1906.
 (A)body, dorsal view; (B)body, lateral view; (C)left chelicerae, ventral view;
 (D)distal teeth of chelicerae; (E)fang; (F)carapace, ventral view; (G)left palpal
 organ, ventral view; (H)left palpal organ, lateral view; (I)left palpal organ, dorsal
 view. Scale lines=1mm (A-C, E- F), 0.1mm (D, G-I)

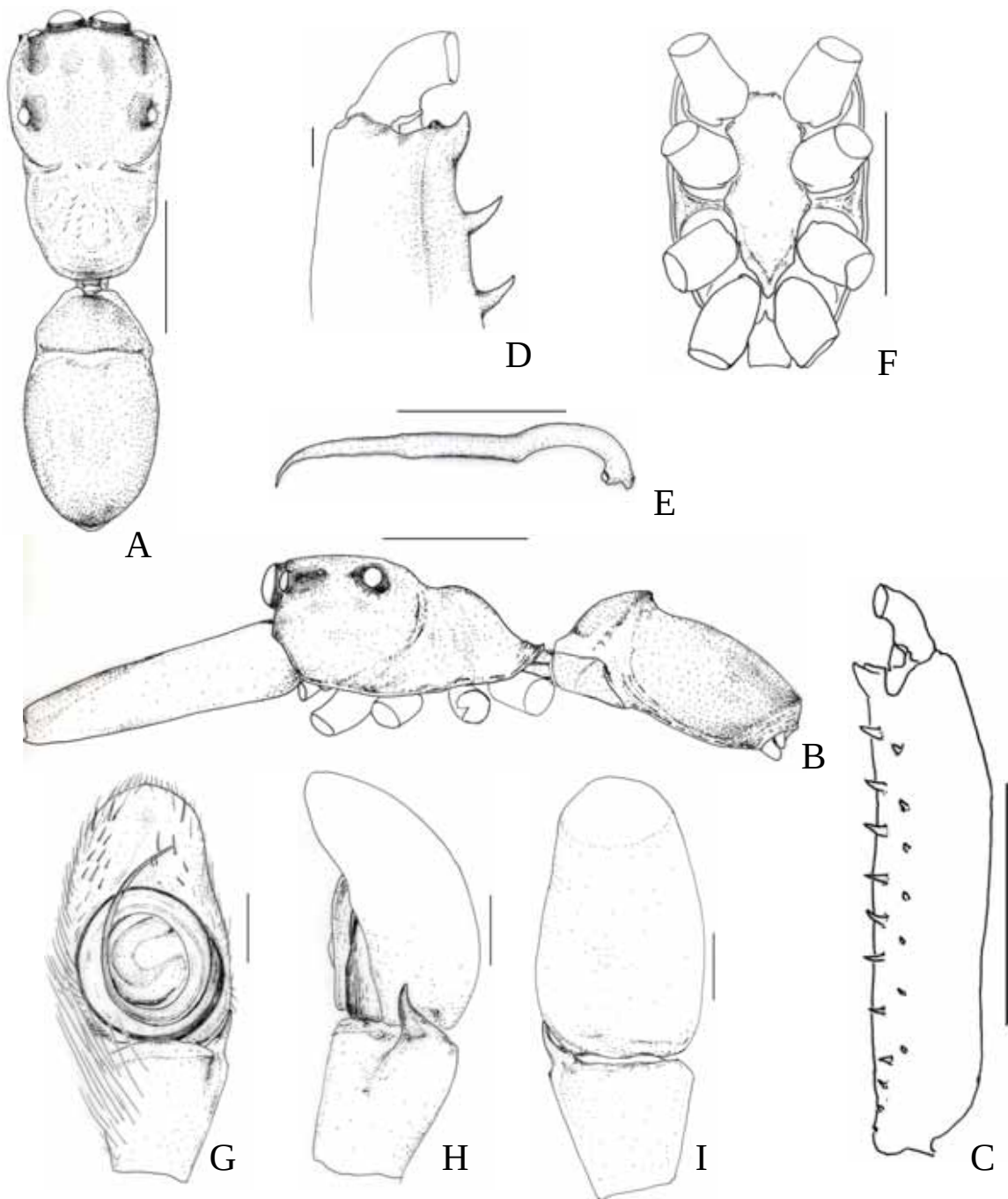


Fig. 12. Adult male of *Myrmarachne kiboschensis* Lessert, 1925.

(A)body, dorsal view; (B)body, lateral view; (C)left chelicerae, retrolateral view; (D)distal teeth of chelicerae; (E)fang; (F)carapace, ventral view; (G)left palpal organ, ventral view; (H) left palpal organ, lateral view; (I) left palpal organ, dorsal view. Scale lines=1 mm (A-C, E-F), 0.1mm (D, G-I).

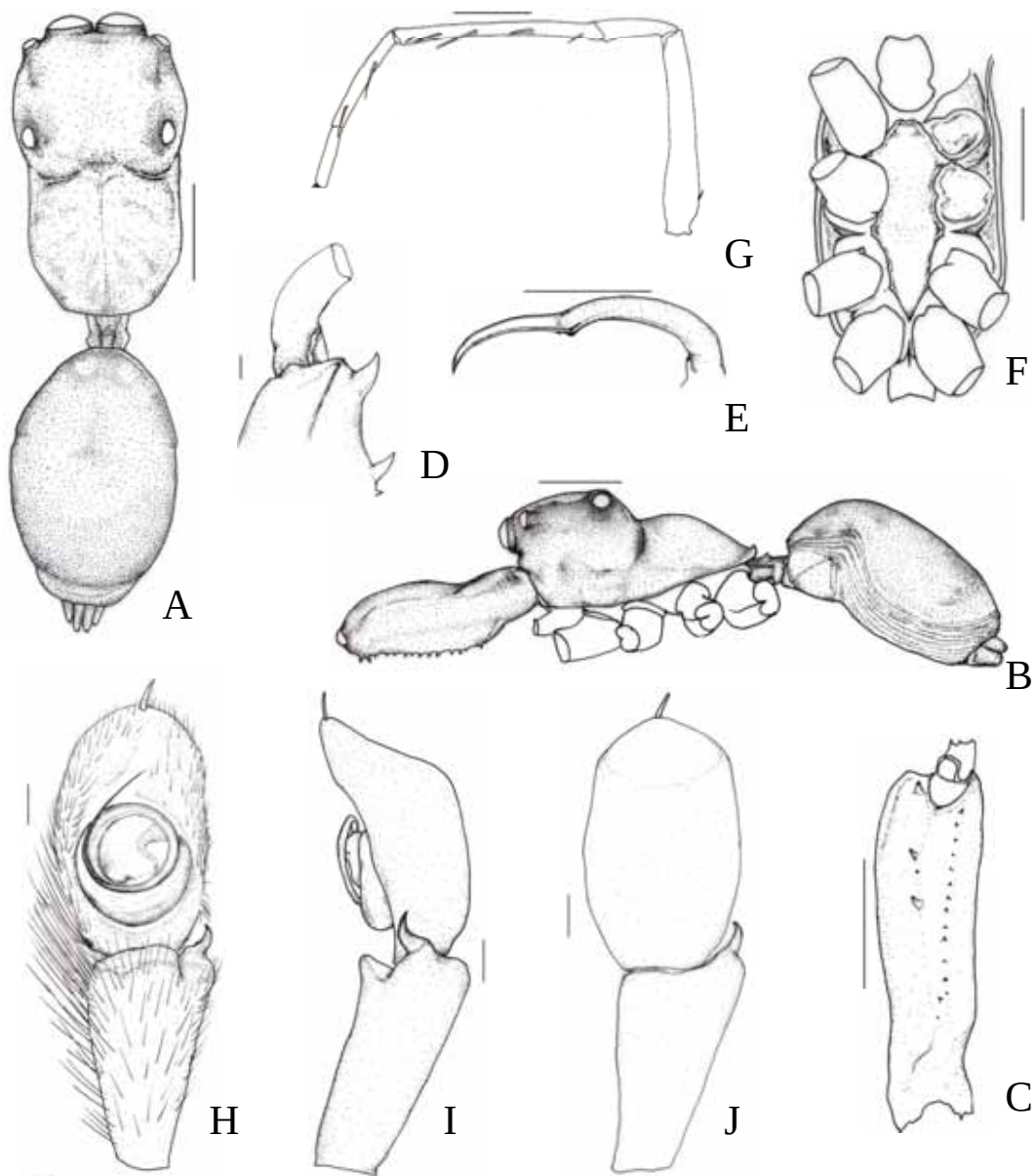


Fig. 13. Adult male of *Myrmarachne lanyuensis* sp. nov.

(A)body, dorsal view; (B)body, lateral view; (C)left chelicerae, ventral view; (D)distal teeth of chelicerae; (E)fang; (F)carapace, ventral view; (G)leg I; (H)left palpal organ, ventral view; (I)pedipalp, lateral view; (J)pedipalp, dorsal view. Scale lines=1 mm (A-C, E-G), 0.1 mm (D, H-J).

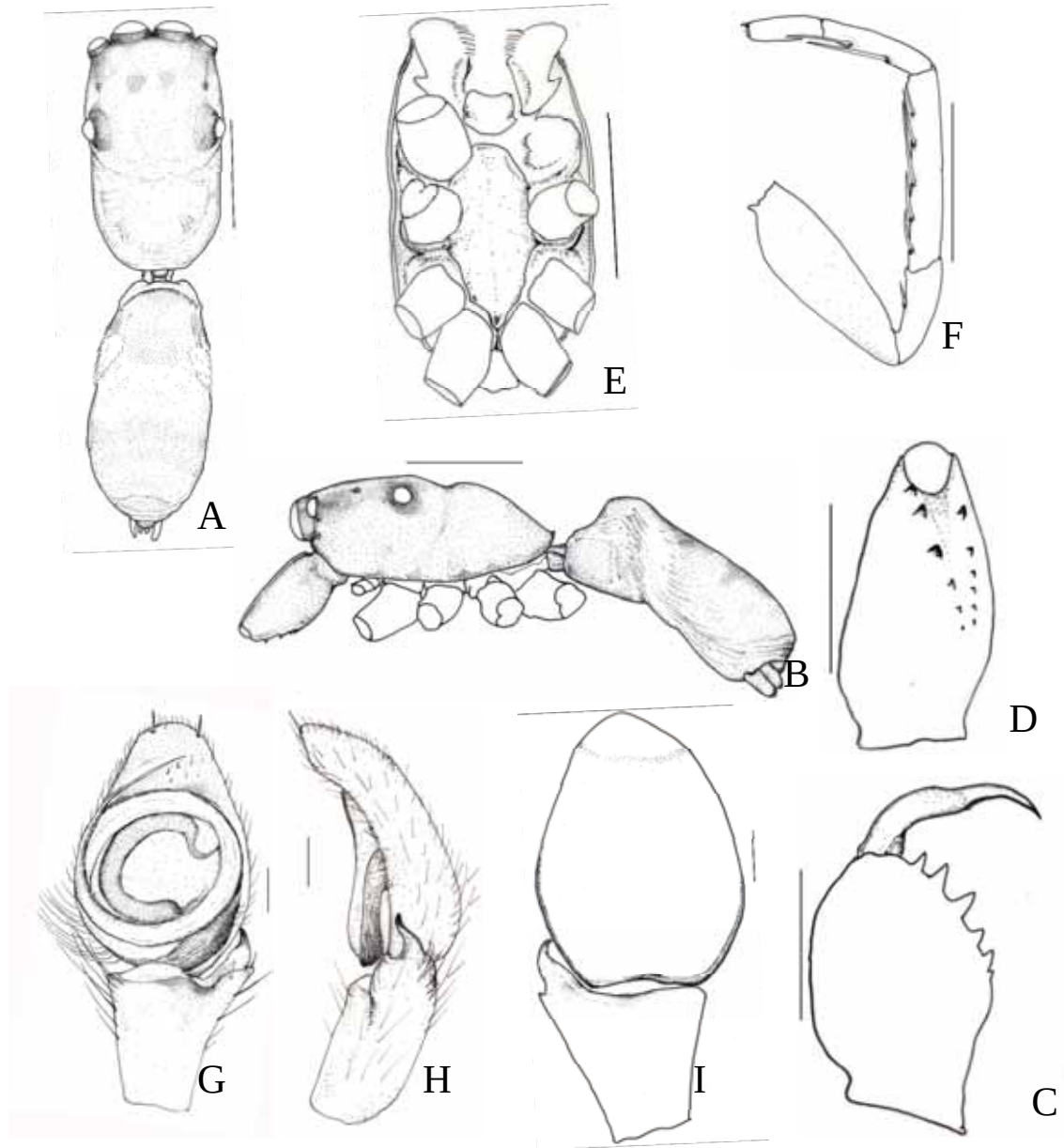


Fig. 14. Adult male of *Myrmarachne laticorseleta* sp. nov.

(A)body, dorsal view; (B)body, lateral view; (C)left chelicerae, prolateral view; (D)left chelicerae, ventral view; (E)carapace, ventral view; (F)leg I; (G)left palpal organ, ventral view; (H)left palpal organ, lateral view; (I)left palpal organ, dorsal view. Scale lines=1 mm (A-F), 0.1 mm (G-I).

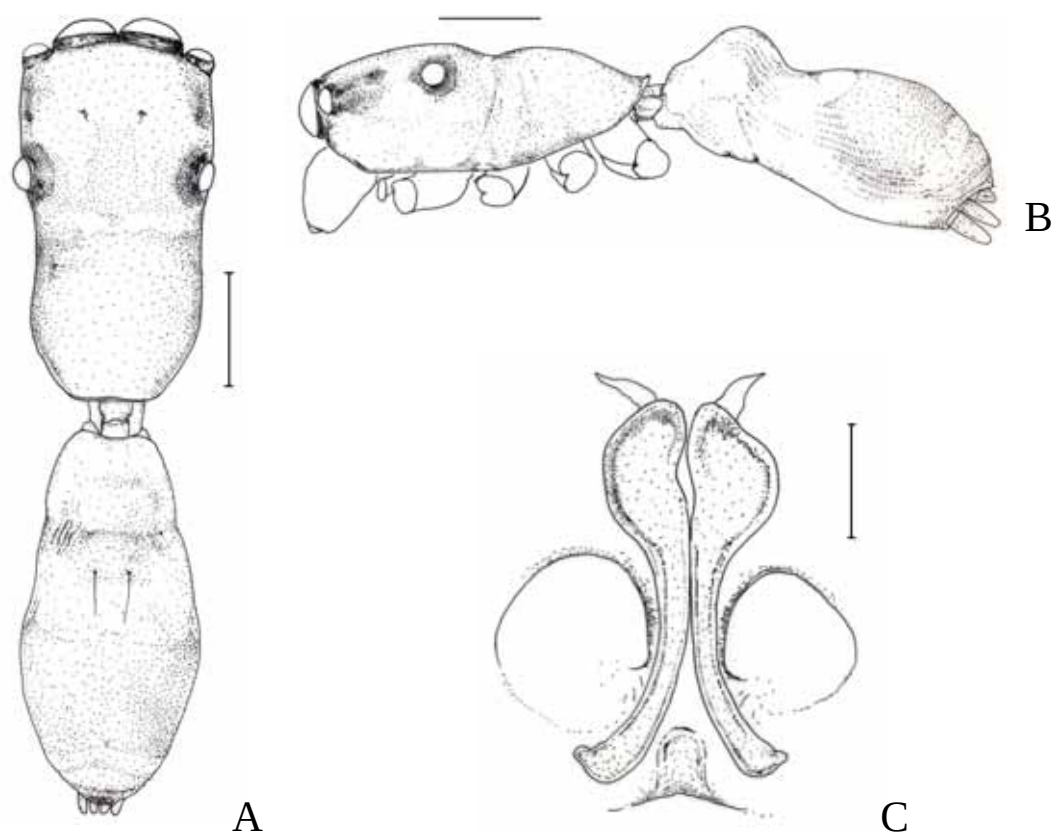


Fig. 15. Adult female of *Myrmarachne laticorseleta* sp. nov.

(A)body, dorsal view; (B)body, lateral view; (C)epygium, internal structure.

Scale lines=1 mm (A-B), 0.1mm (C).

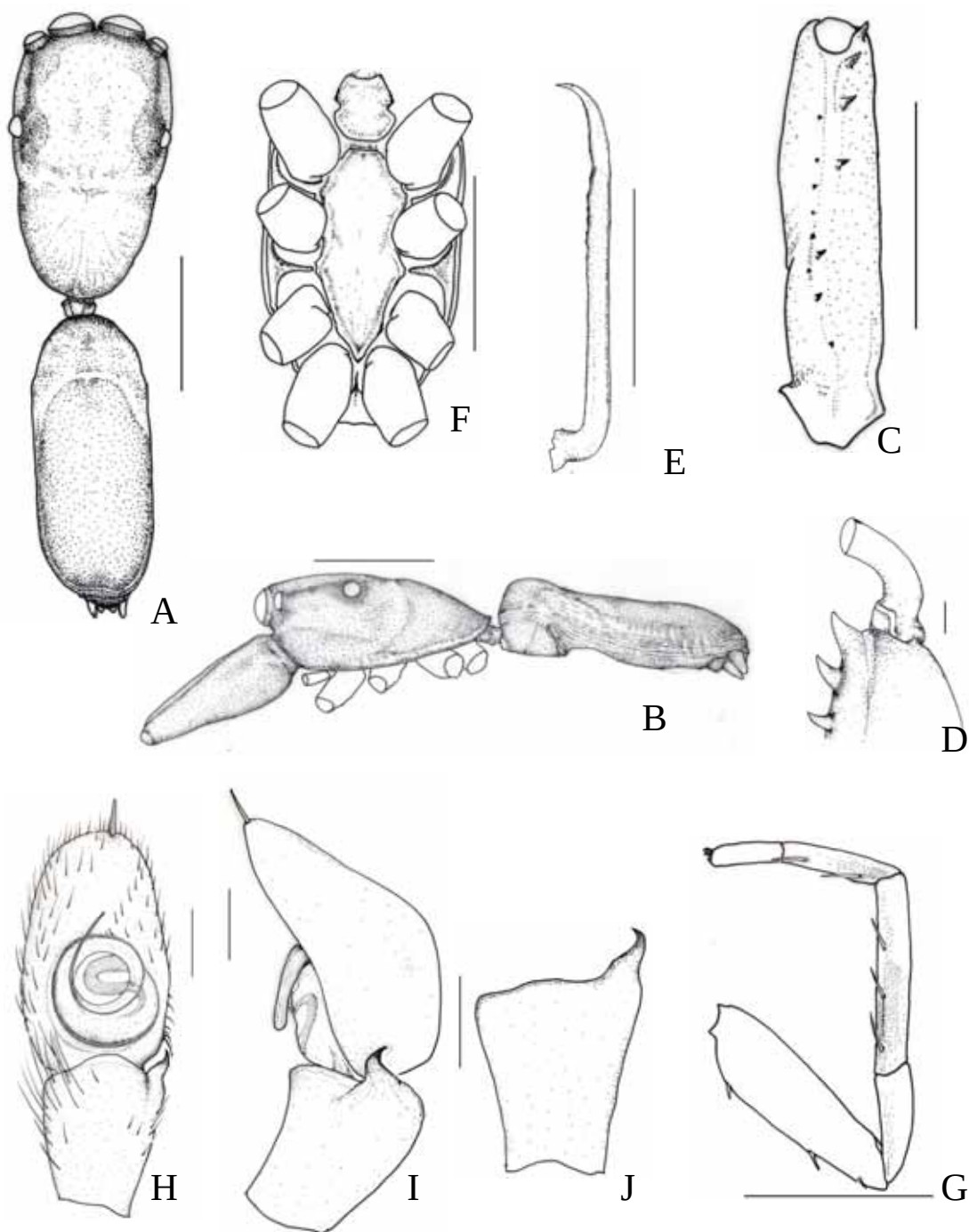


Fig. 16. Adult male of *Myrmarachne luteopalpis* sp. nov.

(A)body, dorsal view; (B)body, lateral view; (C)left chelicerae, ventral view; (D)distal teeth of chelicerae; (E)fang; (F)carapace, ventral view; (G)leg I; (H)male palpal organ, ventral view; (I)male palpal organ, lateral view; (J)tibia aphophysis, dorsal view. Scale lines= 1 mm (A-C, E-G), 0.1mm (D, H-J).

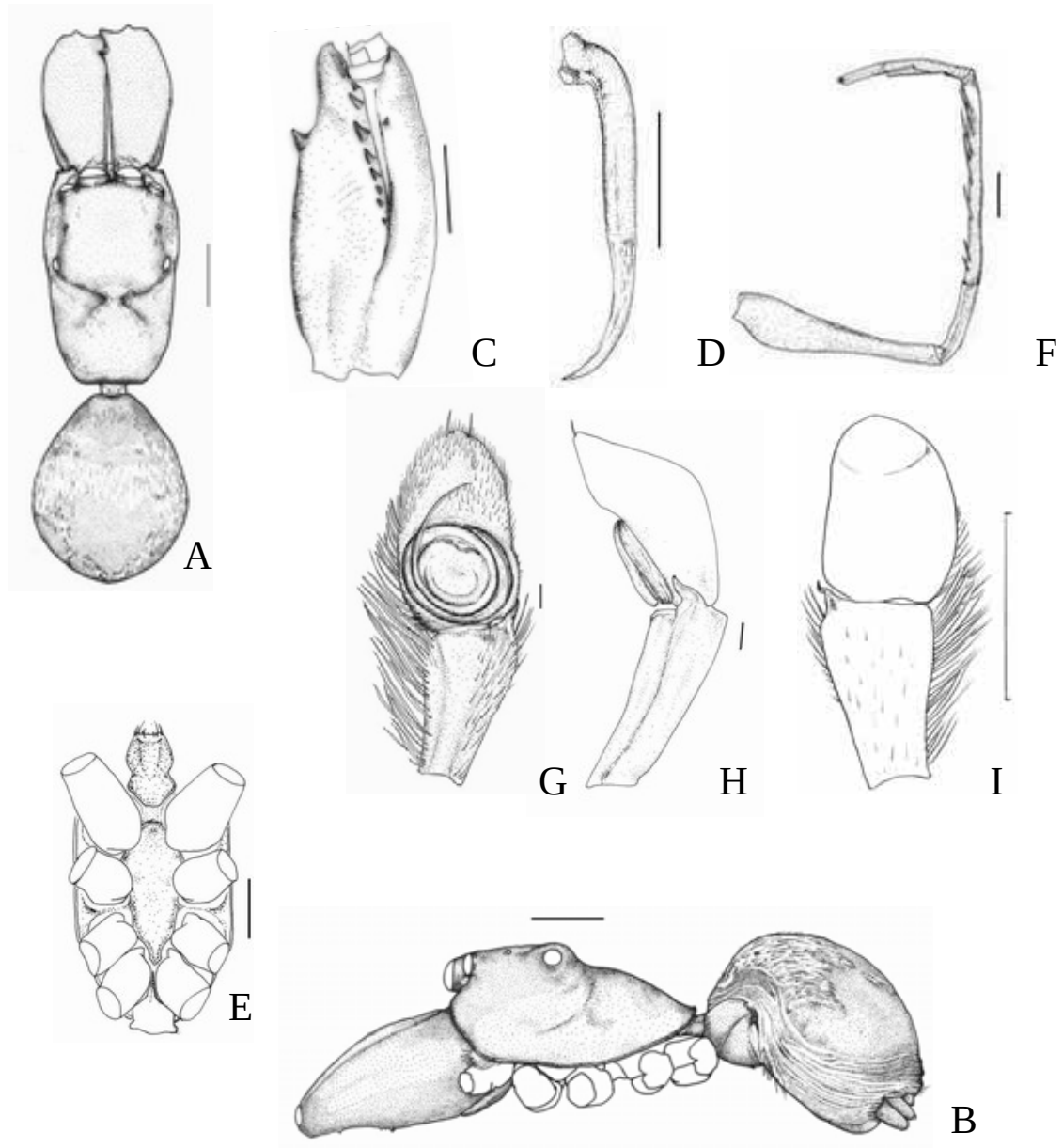


Fig. 17. Adult male of *Myrmarachne magna* (Saito, 1933).

(A)body, dorsal view; (B)body, lateral view; (C)left chelicerae, ventral view; (D)fang; (E)carapace, ventral view; (F)leg I; (G)left palpal organ, ventral view; (H) left palpal organ, lateral view; (I) left palpal organ, dorsal view. Scale lines=1 mm (A-F, I), 0.1mm (G-H).

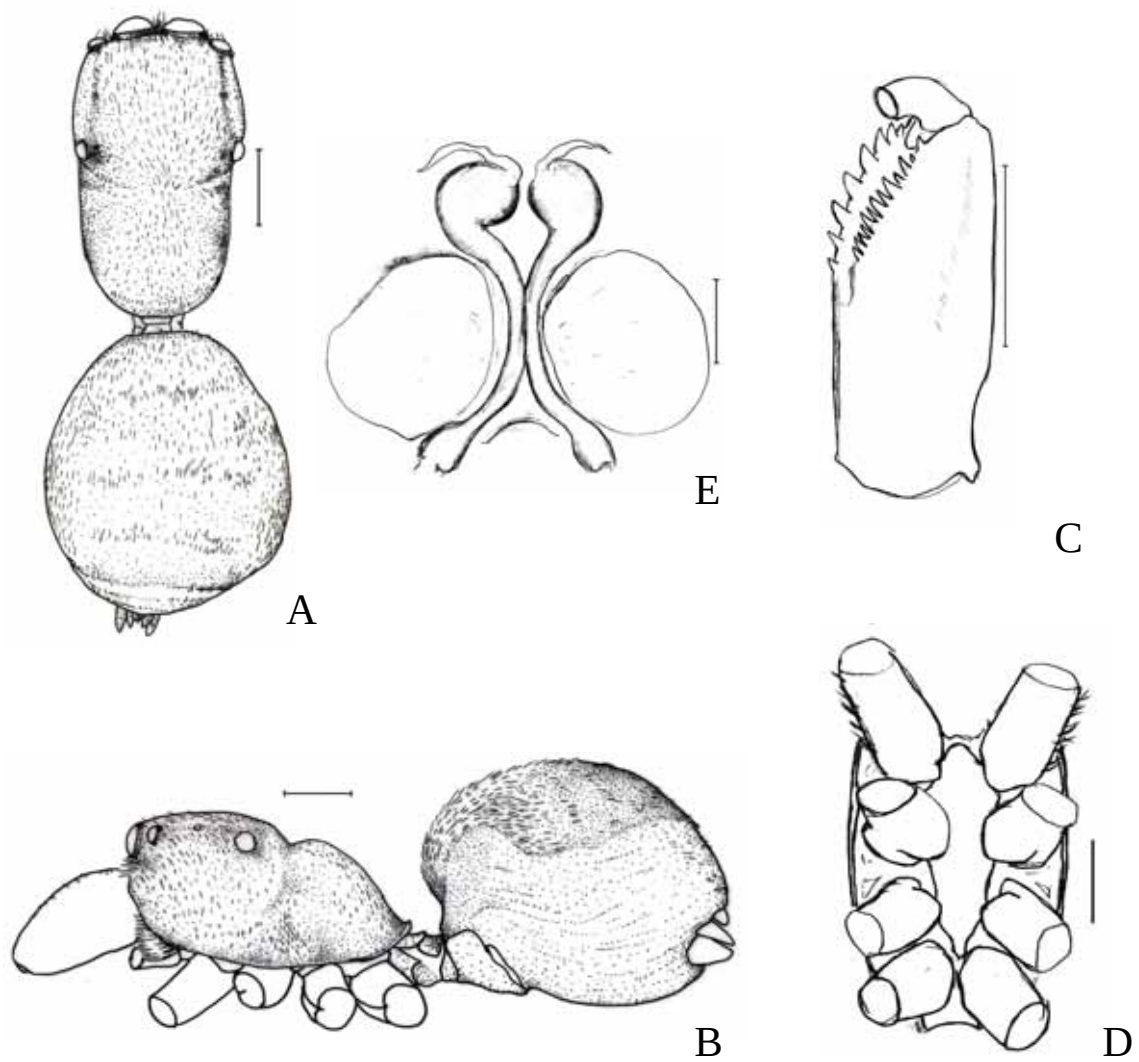


Fig. 18. Adult female of *Myrmarachne magna* (Saito, 1933) .

(A)body, dorsal view; (B)body, lateral view; (C)carapace, ventral view;
 (D)carapace, ventral view; (E)egg, internal structure. Scale lines=1 mm
 (A-D), 0.1mm (E)

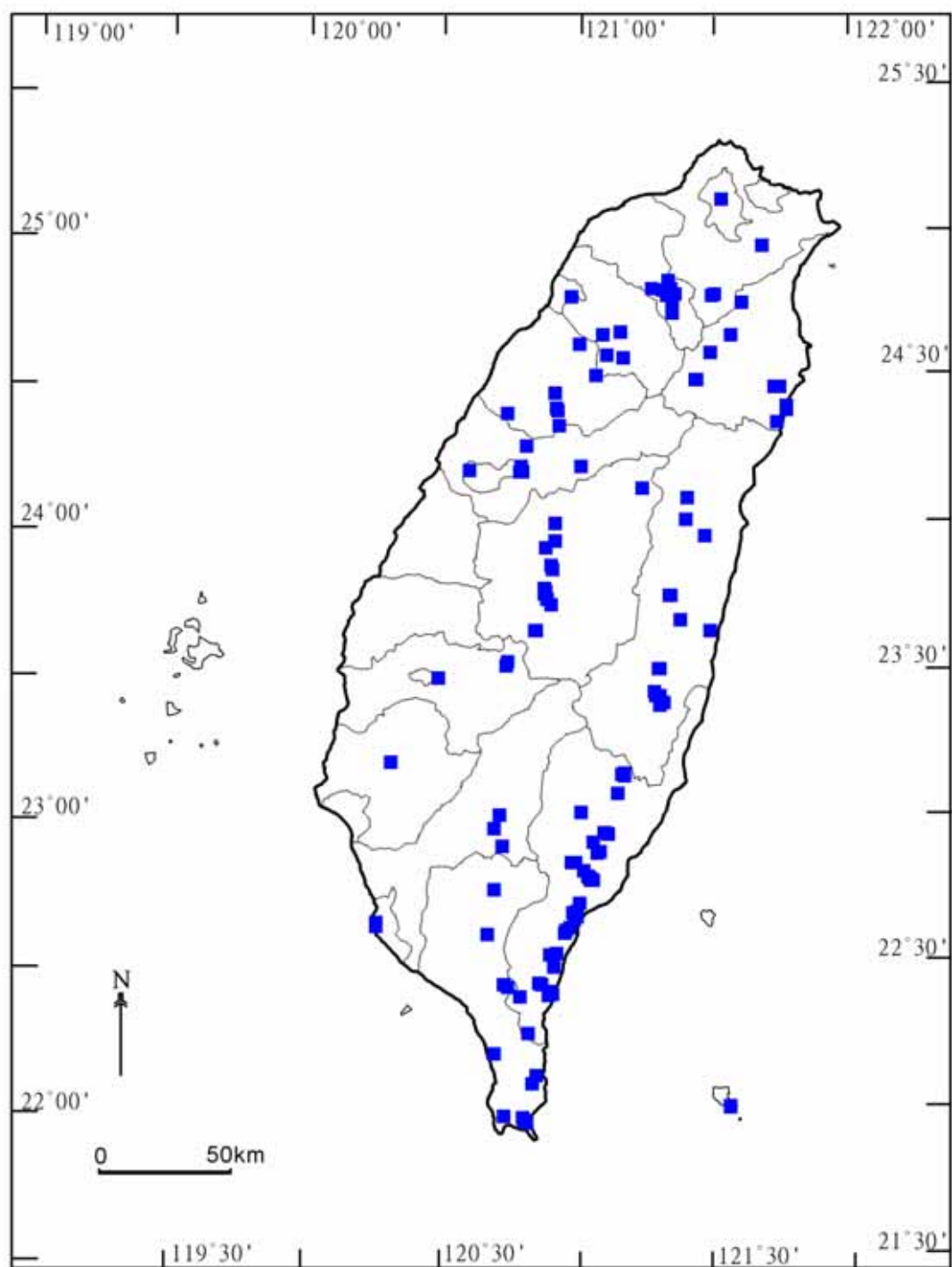


Fig. 19. The collecting sites of *Myrmarachne*.

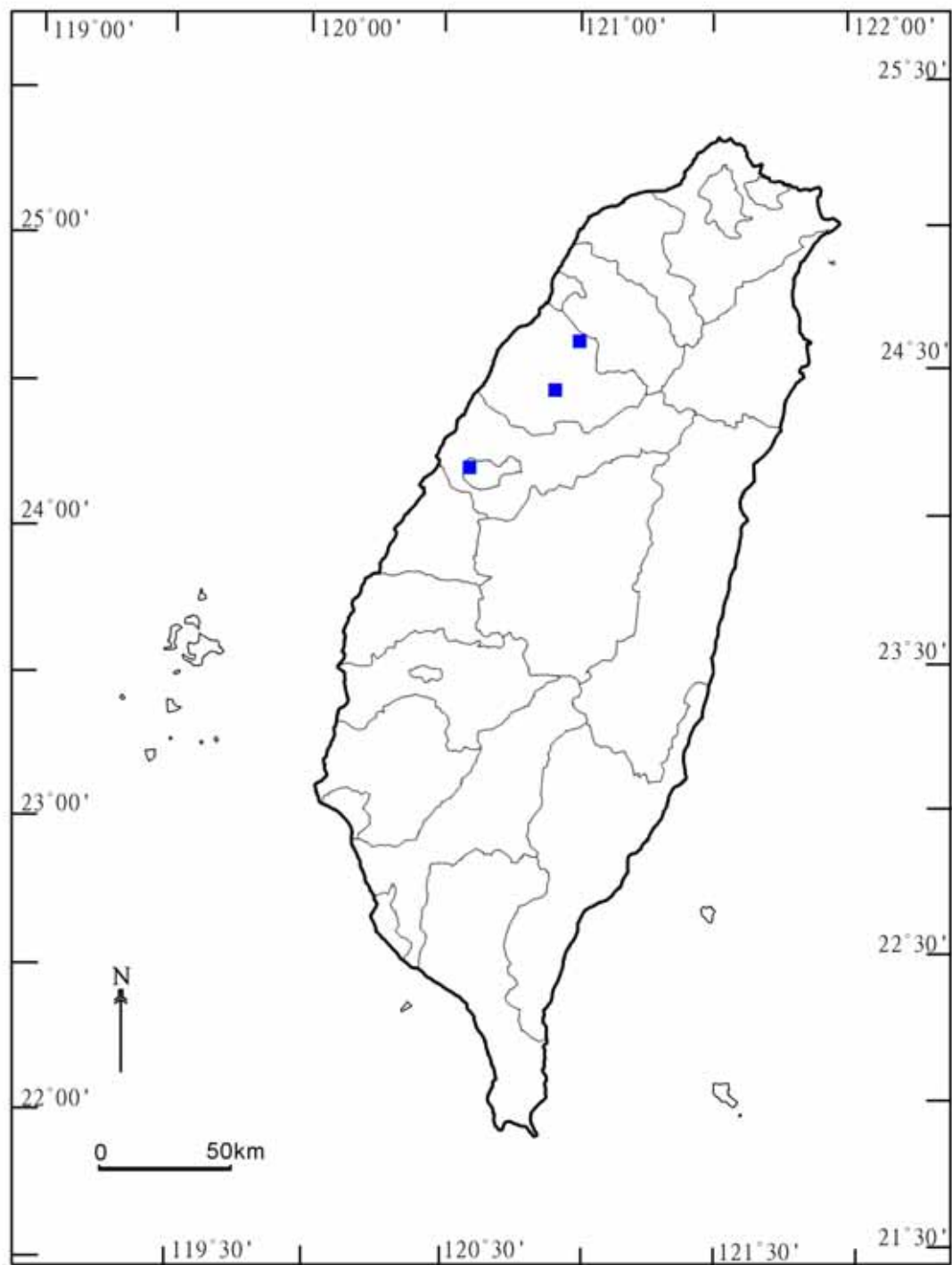


Fig. 20. The collecting sites of *Myrmarachne annamita* Zabka, 1985.

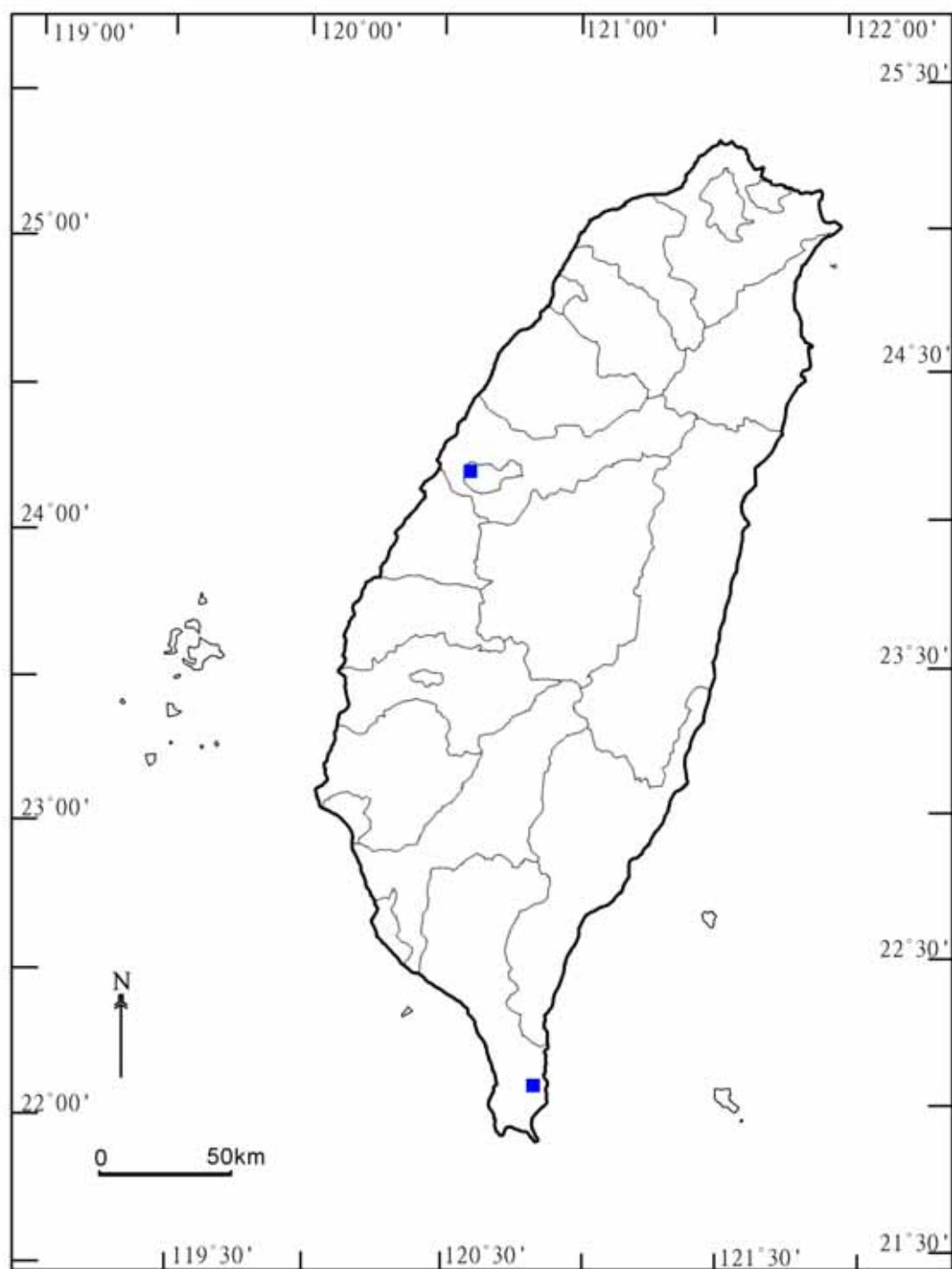


Fig. 21. The collecting sites of *Myrmarachne edwardsi* Berry, Beatty and Proszynski, 1996.

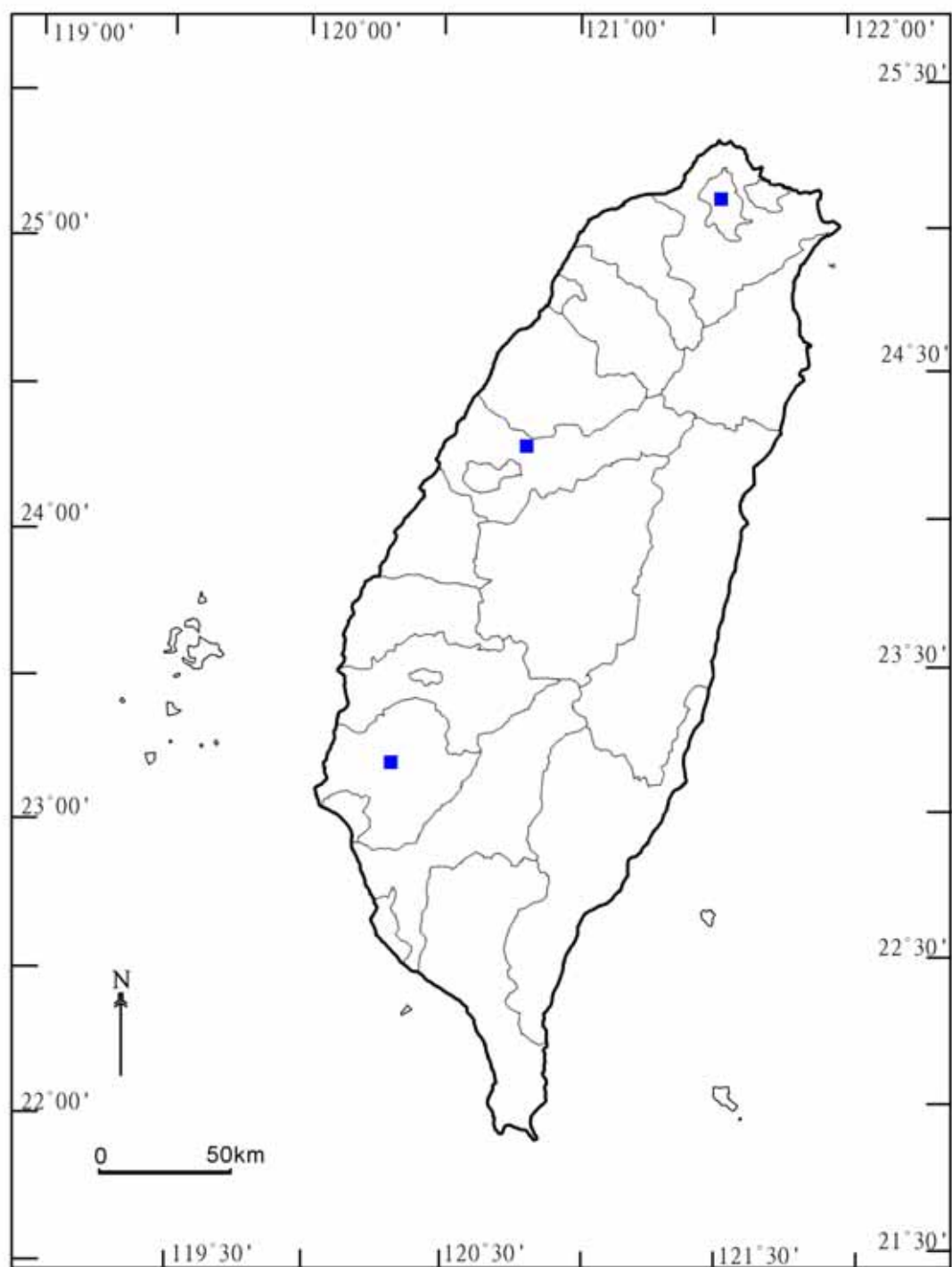


Fig. 22. The collecting sites of *Myrmarachne exilisata* sp. nov.

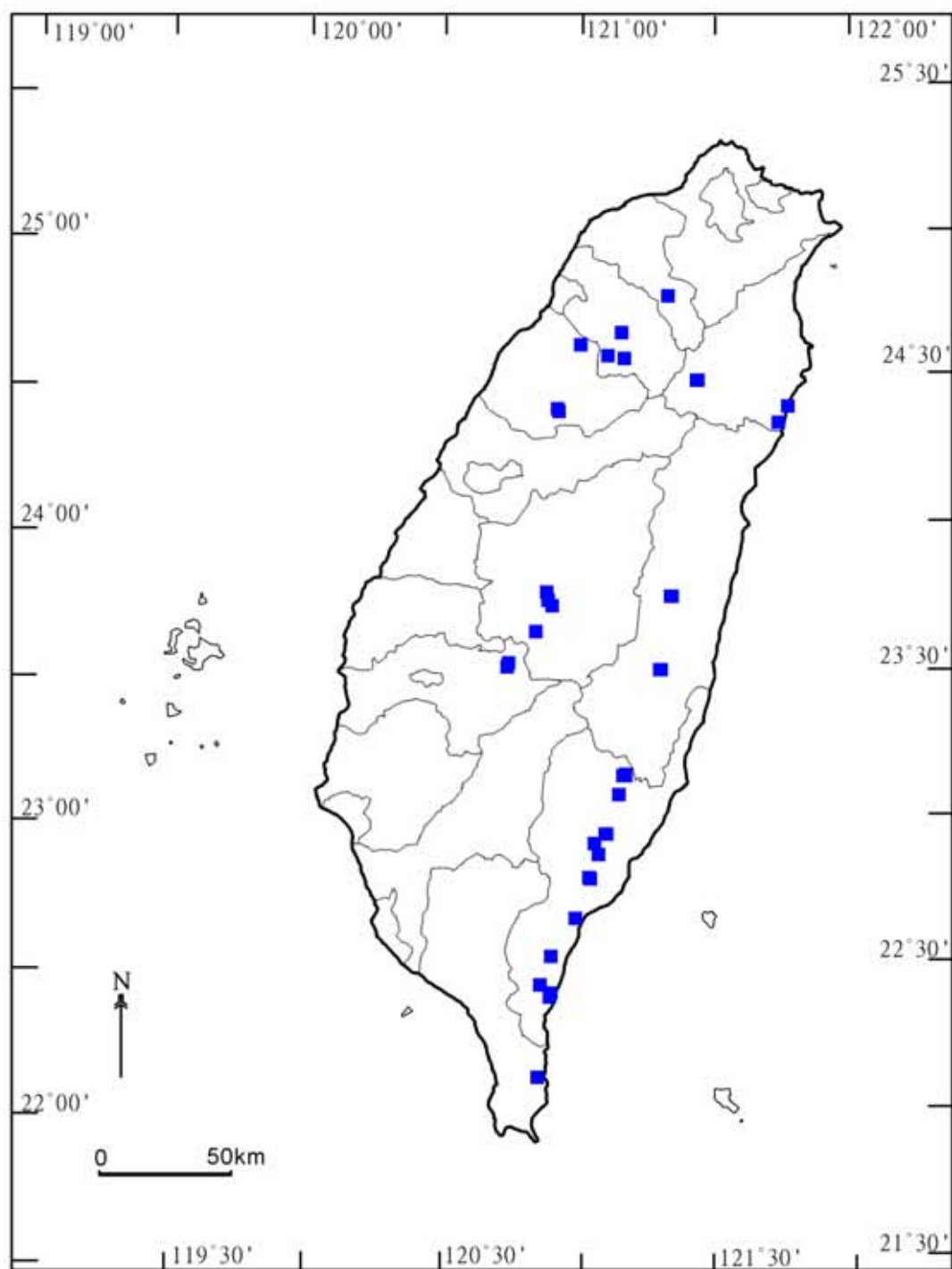


Fig. 23. The collecting sites of *Myrmarachne formosana* (Saito, 1933).

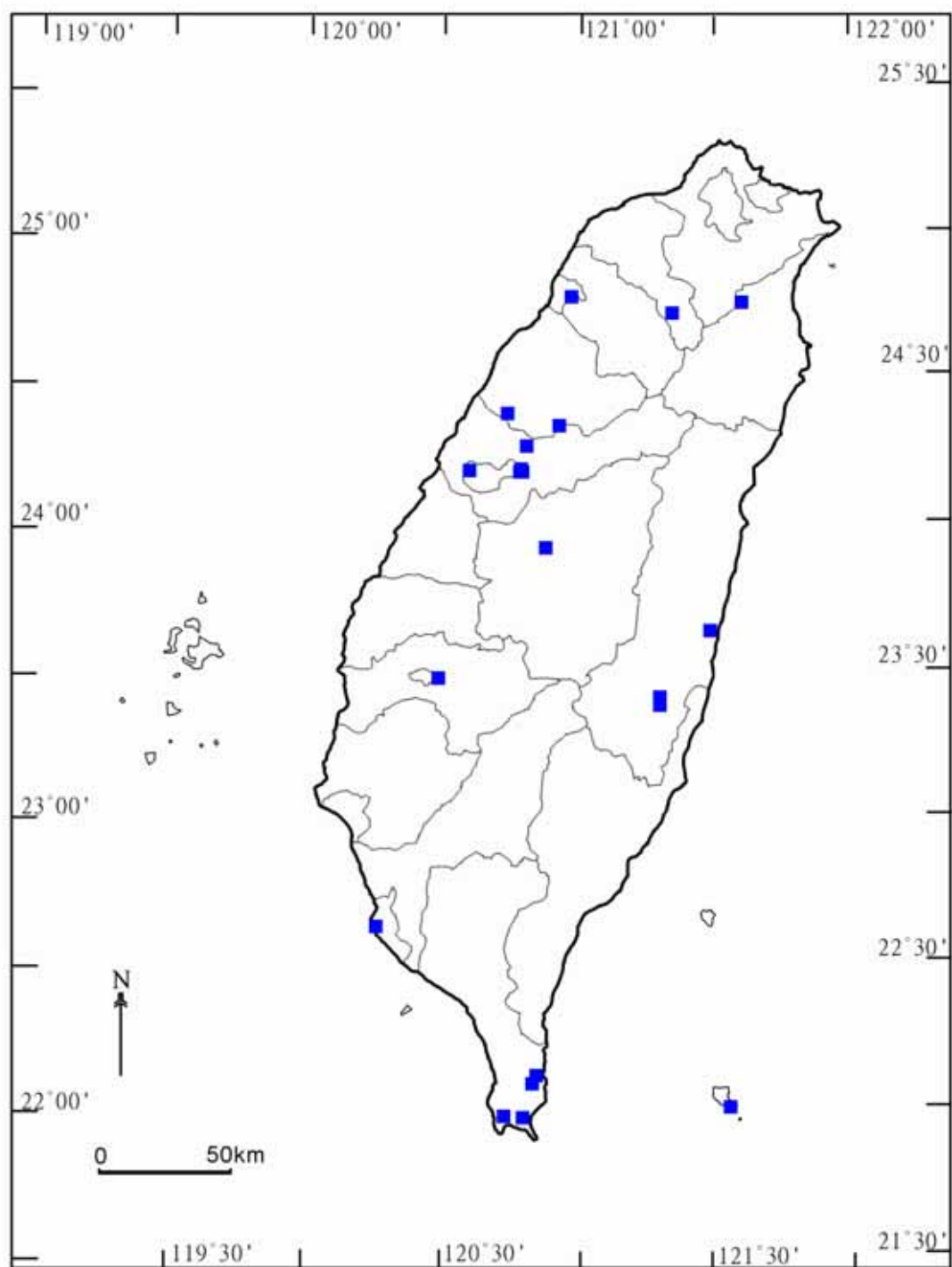


Fig. 24. The collecting sites of *Myrmarachne formosicola* Strand, 1910.

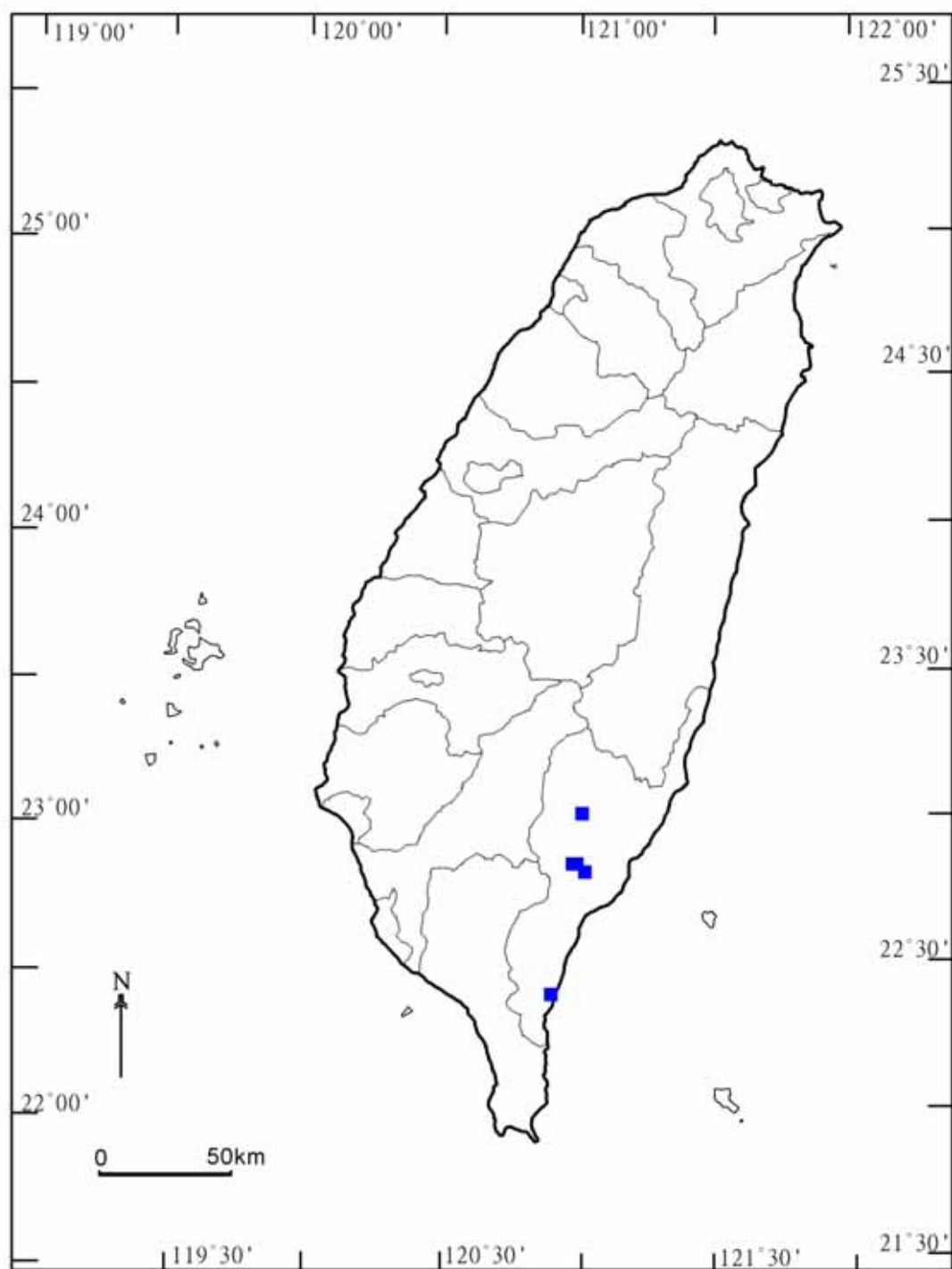


Fig. 25. The collecting sites of *Myrmarachne inermichelis* Bösenberg and Strand, 1906.

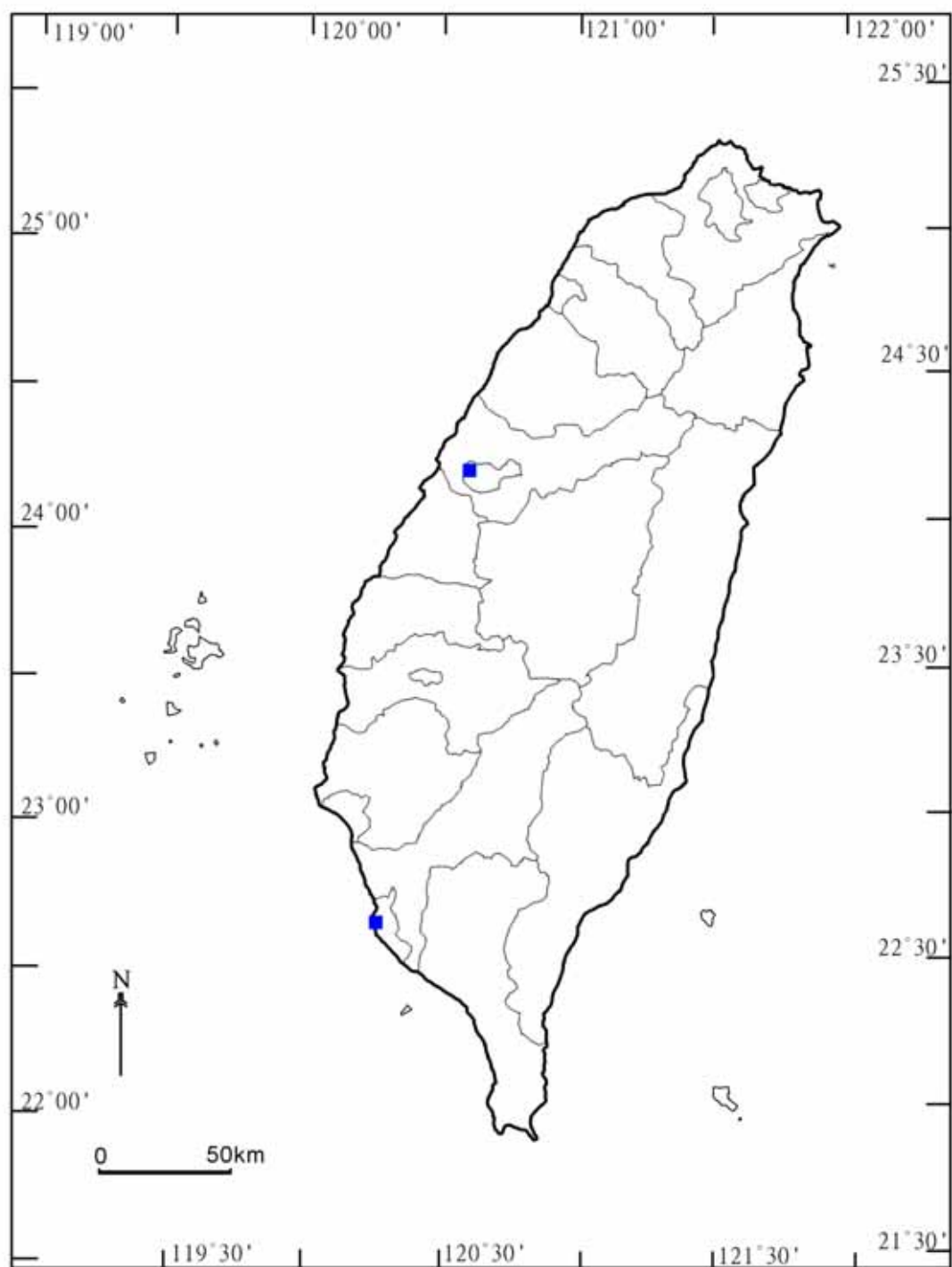


Fig. 26. The collecting sites of *Myrmarachne kiboschensis* Lessert, 1925

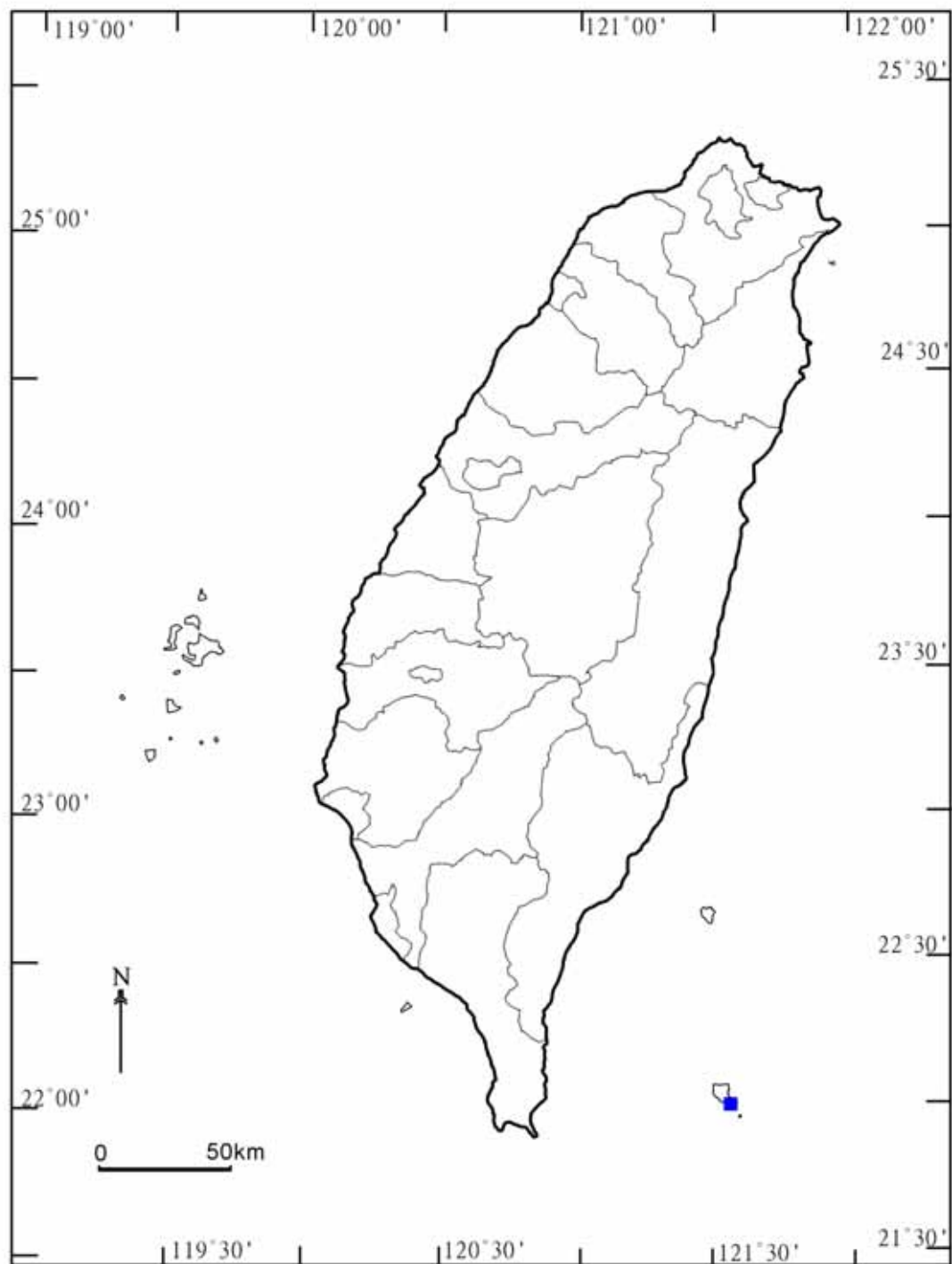


Fig. 26. The collecting sites of *Myrmarachne lanyuensis* sp. nov.

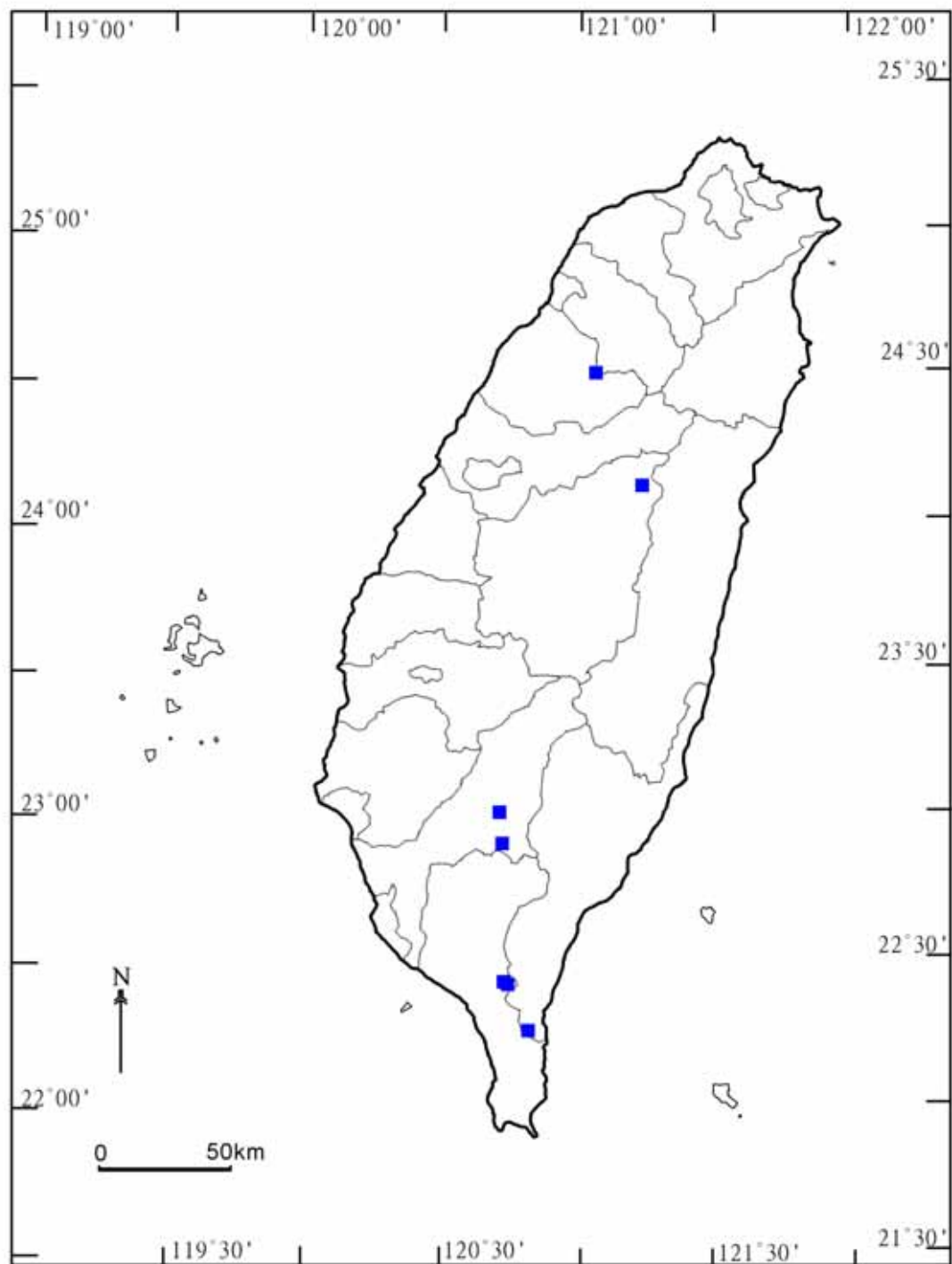


Fig. 28. The collecting sites of *Myrmarachne laticorseleta* sp. nov.

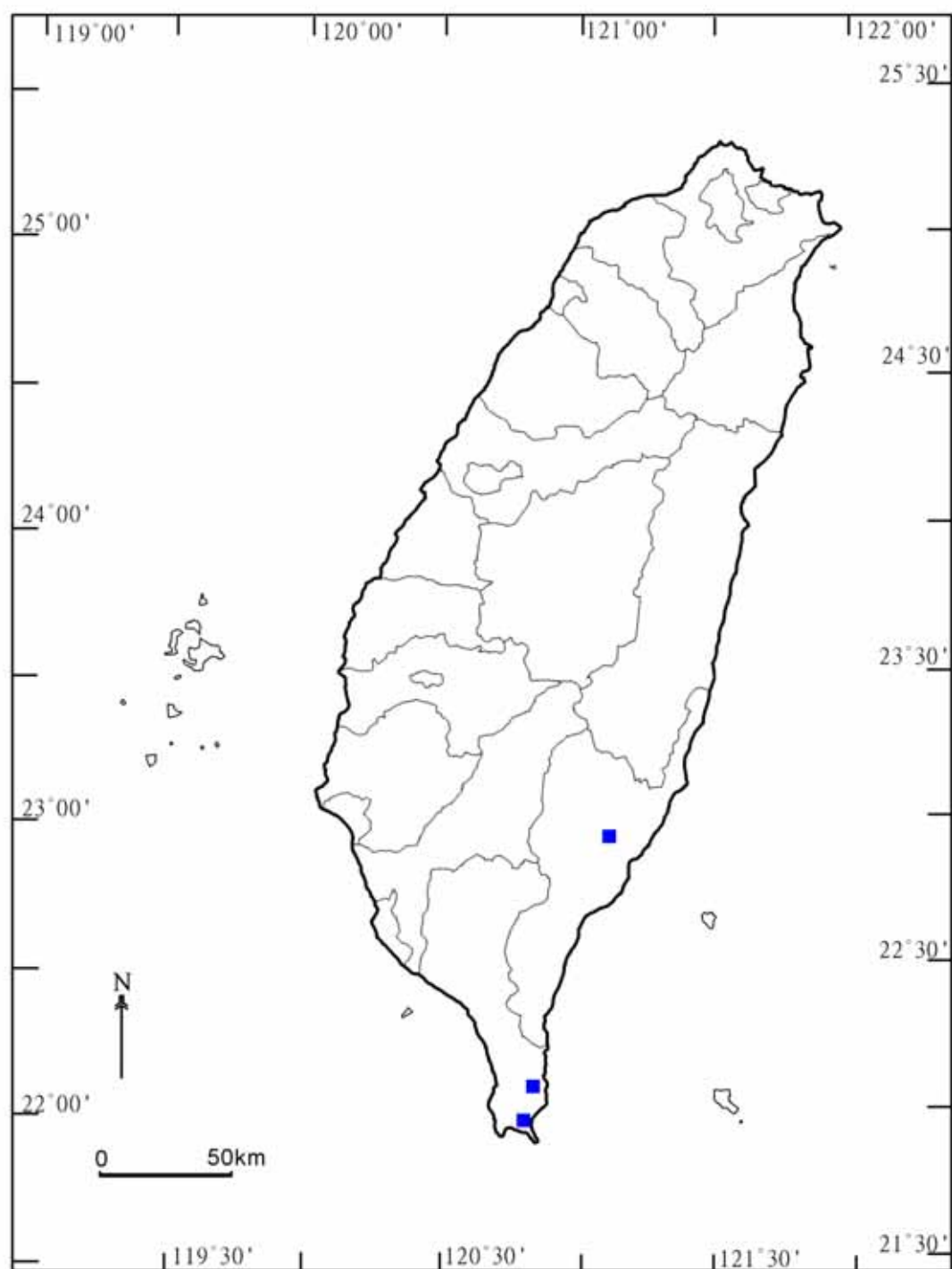


Fig. 29. The collecting sites of *Myrmarachne luteopalpis* sp. nov.

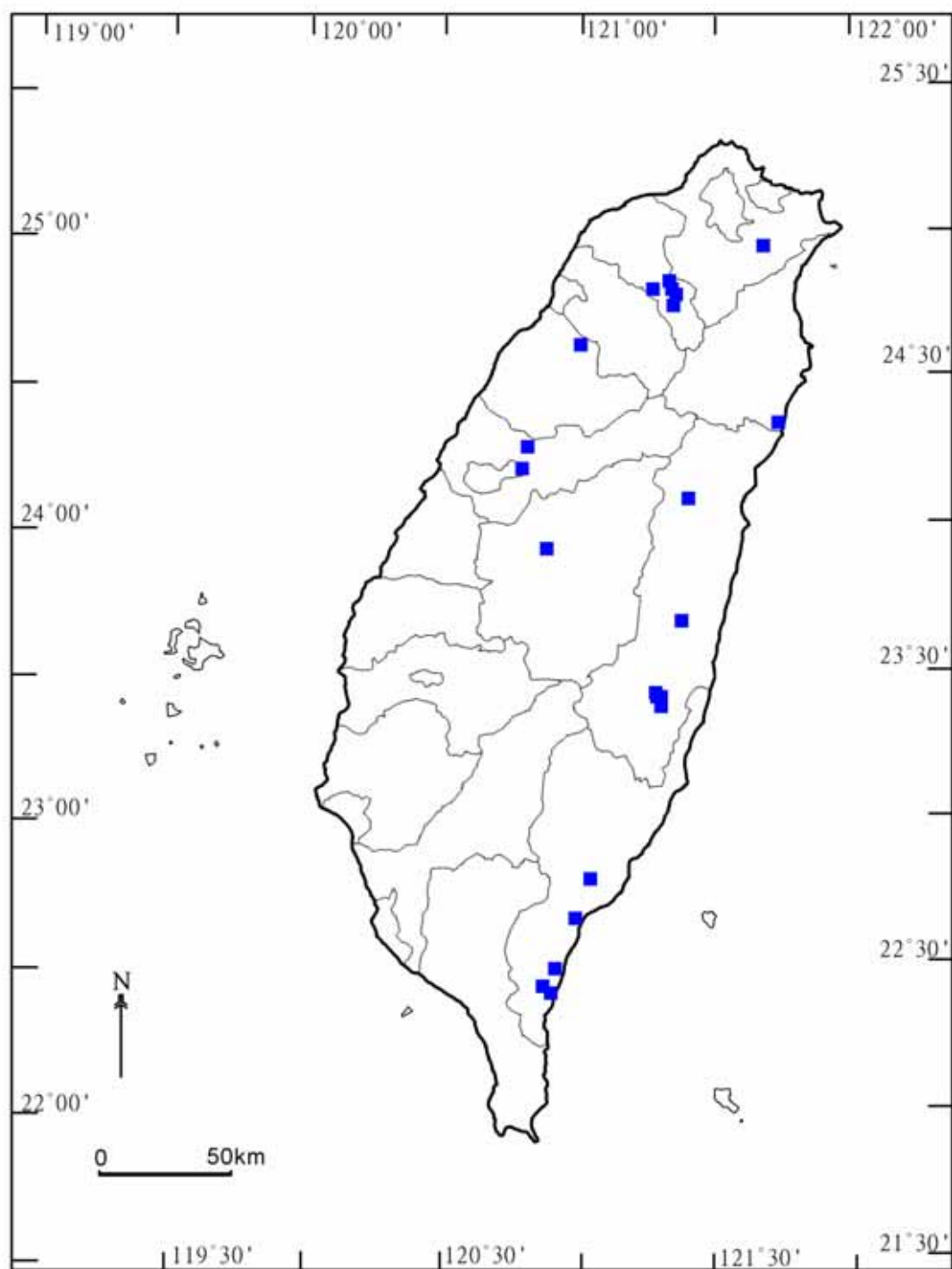


Fig. 30. The collecting sites of *Myrmarachne magna* (Saito, 1933).

Table 1. Abbreviation indices

ALE	anterior lateral eye	mx	maxilla
AME	anterior median eye	pc	pedicel
as	anterior scutum	PLE	posterior lateral eye
cah	carapace height	PME	posterior median eye
ch	chelicerae	pmt	promarginal teeth
chl	chelicerae length	pp	pedipalp
cl	carapace length	ps	posterior scutum
co	coxa	pt	patella
cw	carapace width	rmt	retromarginal teeth
cym	cymbium	sp	spinneret
db	distal bristle	sr	seminal receptacle
ef	epigastric fold	st	sternum
emb	embolus	ta	tarsus
f	flang	teg	tegulum
fa	fang apophysis	ti	tibia
fe	femur	tia	tibia apophysis
fk	fang keels	tlwc	total length without chelicerae
la	labium	tr	trochanter
mt	metatarsus	vsp	ventral segment of pedicel.

Table 2. Measurements and ratios of 11 species of *Myrmarachne*. The ratio are given as % length of cephalothorax length, values are given in mean $\pm$ SD, if n>1.

species	<i>M. annamita</i>	<i>M. edwardsi</i>	<i>M. exilisata</i>	<i>M. formosana</i>	<i>M. formosana</i>
sex (n)	male (2)	male (1)	male (2)	male (11)	female (5)
Dimensions in mm					
body length	4.37 $\pm$ 0.47	3.14	5.03 $\pm$ 0.22	4.43 $\pm$ 0.48	5.30 $\pm$ 0.49
carapace length	1.87 $\pm$ 0.26	1.33	2.19 $\pm$ 0.10	1.95 $\pm$ 0.16	2.17 $\pm$ 0.12
carapace width	0.89 $\pm$ 0.12	0.75	1.02 $\pm$ 0.04	0.98 $\pm$ 0.07	1.01 $\pm$ 0.06
carapace height	0.64 $\pm$ 0.08	0.49	0.83 $\pm$ 0.05	0.76 $\pm$ 0.06	0.66 $\pm$ 0.05
chelicerae length	1.16 $\pm$ 0.37	0.54	2.51 $\pm$ 0.29	1.98 $\pm$ 0.33	-
sternum length/width	3.26 $\pm$ 0.45	2.61	3.41 $\pm$ 0.13	3.26 $\pm$ 0.18	3.84 $\pm$ 0.13
% cephalothorax length					
carapace width	47.5 $\pm$ 0.21	56.4	46.6 $\pm$ 0.17	50.1 $\pm$ 1.00	46.5 $\pm$ 0.41
carapace height	34.1 $\pm$ 0.61	36.8	37.7 $\pm$ 0.56	39.1 $\pm$ 1.31	30.3 $\pm$ 1.05
chelicerae length	61.1 $\pm$ 11.52	40.6	114.2 $\pm$ 8.08	101.0 $\pm$ 10.63	-
sternum length	59.4 $\pm$ 2.29	54.9	55.2 $\pm$ 0.73	57.9 $\pm$ 1.78	58.3 $\pm$ 1.52
sternum width	18.4 $\pm$ 1.82	21.1	16.2 $\pm$ 0.41	17.8 $\pm$ 0.90	15.2 $\pm$ 0.61
leg I	167.7 $\pm$ 10.26	161.7	180.1 $\pm$ 0.58	169.5 $\pm$ 7.00	144.3 $\pm$ 1.94
leg II	124.4 $\pm$ 3.40	-	129.5 $\pm$ 7.15	128.3 $\pm$ 8.16	117.0 $\pm$ 7.95
leg III	123.2 $\pm$ 5.14	137.6	124.9 $\pm$ 6.64	134.5 $\pm$ 5.51	132.7 $\pm$ 5.32
leg IV	183.4 $\pm$ 0.71	199.3	157.6 $\pm$ 7.46	192.3 $\pm$ 8.82	197.7 $\pm$ 6.34
pedipalp	50.4 $\pm$ 12.00	66.2	65.4 $\pm$ 2.99	60.4 $\pm$ 3.21	-

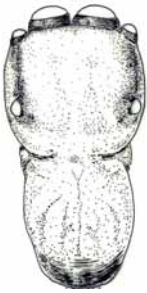
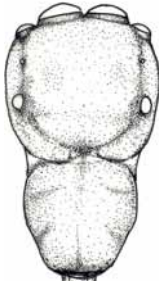
Table 2. (cont.1)

species	<i>M. formosicola</i>	<i>M. formosicola</i>	<i>M. inermichelis</i>	<i>M. kiboschensis</i>	<i>M. lanyuensis</i>
sex	male (9)	female (3)	male (6)	male (1)	male (4)
Dimensions in mm					
body length	5.79 ± 0.86	5.19 ± 0.40	4.94 ± 0.73	3.47	5.43 ± 0.17
carapace length	2.49 ± 0.27	2.40 ± 0.03	2.21 ± 0.26	1.83	2.64 ± 0.16
carapace width	1.18 ± 0.07	1.12 ± 0.04	0.99 ± 0.09	0.90	1.31 ± 0.05
carapace height	0.96 ± 0.11	0.75 ± 0.02	0.81 ± 0.09	0.77	1.23 ± 0.09
chelicerae length	2.04 ± 0.36	-	2.13 ± 0.44	1.76	2.01 ± 0.27
sternum length/width	3.64 ± 0.27	4.01 ± 0.20	3.46 ± 0.18	2.54	2.46 ± 0.07
% Carapace length					
carapace width	47.5 ± 2.49	46.7 ± 1.09	44.8 ± 1.37	49.2	49.7 ± 1.06
carapace height	38.6 ± 1.44	31.2 ± 0.75	36.9 ± 0.64	42.1	46.5 ± 0.55
chelicerae length	81.7 ± 9.31	-	95.9 ± 9.36	96.2	76.0 ± 6.17
sternum length	57.7 ± 1.16	58.9 ± 0.80	58.9 ± 2.67	51.4	55.6 ± 1.20
sternum width	15.9 ± 1.13	14.7 ± 0.57	17.1 ± 1.40	20.2	22.6 ± 0.47
leg I	181.6 ± 9.11	146.2 ± 8.37	176.1 ± 8.42	178.1	259.6 ± 11.75
leg II	137.3 ± 6.93	122.2 ± 5.26	129.0 ± 3.73	130.6	176.2 ± 6.59
leg III	153.8 ± 8.08	140.8 ± 93.28	136.5 ± 4.48	136.6	190.4 ± 4.80
leg IV	217.4 ± 8.35	209.2 ± 1.98	188.5 ± 5.18	191.8	277.9 ± 6.64
pedipalp	66.8 ± 3.29	-	64.2 ± 2.60	63.9	83.2 ± 2.96

Table 2. (cont. 2)

species	<i>M. laticorseleta</i>	<i>M. laticorseleta</i>	<i>M. luteopalpis</i>	<i>M. magna</i>	<i>M. magna</i>
sex	male (6)	femal (1)e	male (1)	male (9)	female (2)
Dimensions in mm					
body length	4.54 ± 0.54	5.94	3.30	6.65 ± 0.95	7.23 ± 0.49
carapace length	2.22 ± 0.29	2.75	1.70	3.26 ± 0.44	3.19 ± 0.11
carapace width	1.15 ± 0.10	1.38	0.94	1.74 ± 0.18	1.73 ± 0.1
carapace height	0.78 ± 0.13	0.87	0.61	1.56 ± 0.22	1.43 ± 0.04
chelicerae length	0.89 ± 0.24	0.69	1.20	2.47 ± 0.53	-
sternum length/width	2.50 ± 0.23	3.06	2.33	2.53 ± 0.15	2.86 ± 0.02
% Carapace length					
carapace width	52.1 ± 2.59	50.2	55.3	53.5 ± 2.09	54.1 ± 0.41
carapace height	34.8 ± 2.32	32.9	35.9	47.7 ± 1.11	44.8 ± 0.35
chelicerae length	39.9 ± 6.41	25.2	70.60	75.1 ± 6.90	-
sternum length	51.7 ± 2.66	53.3	53.5	49.0 ± 0.90	51.6 ± 0.28
sternum width	20.8 ± 1.82	17.6	22.9	19.4 ± 1.29	18.0 ± 0.03
leg I	186.3 ± 11.78	172.1	162.9	307.1 ± 15.11	286.6 ± 11.11
leg II	136.7 ± 3.01	140.8	121.2	183.2 ± 7.15	181.3 ± 0.38
leg III	153.9 ± 9.28	157.3	125.3	188.4 ± 6.64	189.3 ± 1.85
leg IV	224.6 ± 11.42	198.1	181.2	279.7 ± 7.46	290.0 ± 8.11
pedipalp	83.6 ± 5.05	-	59.4	104.9 ± 2.99	

Table 3. Differences between male *M. formosana* and *M. inermichelis*

	<i>M. inermichelis</i>	<i>M. formosana</i>
Coloration	carapace shiny blackish;	uniform, shiny blackish
Carapace	abdomen grey brownish slender, thorax slightly narrower than head	thorax much narrower than head
		
Promarginal teeth / Retromarginal teeth	7 / 14	9-13 / 3-7
Chelicerae	dorsolateral inner margin rounded without ridge	with distinct ridge on dorsolateral inner margin
2 disto-promarginal	approximately in equal size	second one much smaller than first one
		
Fang	approximately straight	curved at quarter of its length
		
Abdomen	slender, constriction not distinctly	pear-sharp, with distinct constriction.
Cymbium	with 1 distal seta,	without distal seta, related broader laterally
	